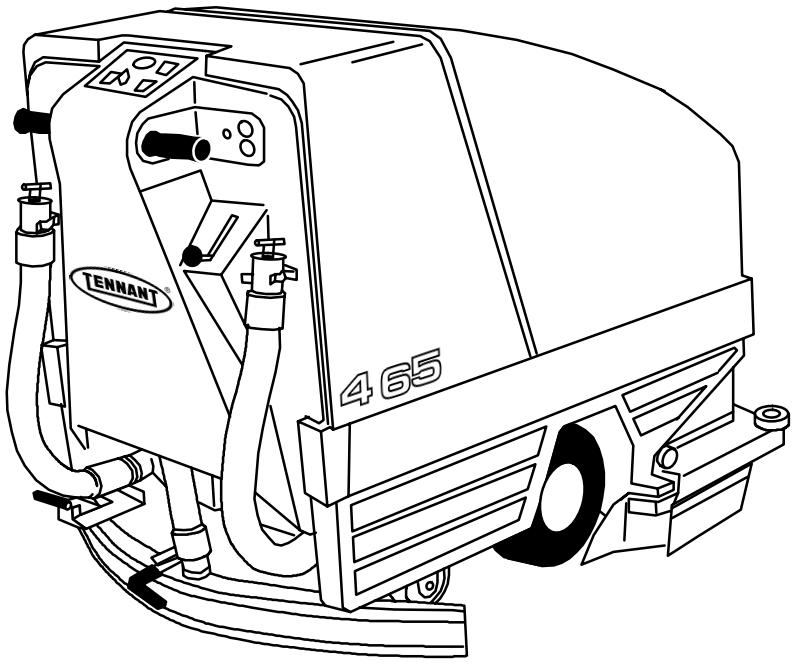
TENNANT

465
480
490



MM184
Rev. 12 (9–94)

This manual is furnished with each new TENNANT Model 465, 480, and 490. It provides necessary operating and preventive maintenance instructions. Read this manual completely and understand the machine before operating or servicing it.

This manual covers all machine variations and standard options. The instruction portion of the manual consists of the Specification, Operation, Maintenance, and Appendix sections. The parts portion consists of How to use this Manual; 465 Parts; 480 Parts; 480EE Parts; 490 Parts; Options; Breakdowns; and Cross Reference.

All right side and left side references to the machine are determined by facing the direction of forward travel. All hardware considered to be of a common nature or locally available has been omitted from the parts sections. Be aware that this machine may contain metric hardware. Make sure you use equivalent hardware when replacement becomes necessary.

This machine will provide excellent service. However, the best results will be obtained at minimum costs if:

- The machine is operated with reasonable care.
- The machine is maintained regularly – per the maintenance instructions provided.
- The machine is maintained with TENNANT supplied or equivalent parts.

Parts and supplies may be ordered by phone or mail from any TENNANT parts and service center, distributor, or from any of the TENNANT subsidiaries. Before ordering parts or supplies, be sure to have your machine model number and serial number handy. Fill out the data block below for future reference. The telephone numbers, telex numbers, mailing addresses, and locations of those outlets are listed in the Customer Documents section of the manual.

MACHINE DATA

Please fill out at time of installation.

Machine Serial Number – _____

Engine Serial Number – _____

Sales Representative – _____

Customer Number – _____

Date of Installation – _____

Manual Number – MM184

Revision: 12

Published: 9–94

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SAFETY PRECAUTIONS

The following symbols are used throughout this manual as indicated in their descriptions:

WARNING: To Warn Of Hazards Or Unsafe Practices Which Could Result In Severe Personal Injury Or Death.

FOR SAFETY: To Identify Actions Which Must Be Followed For Safe Operation Of Equipment.

The following information signals potentially dangerous conditions to the operator or equipment. Read this manual carefully. Know when these conditions can exist. Locate all safety devices on the machine. Then, take necessary steps to train machine operating personnel. Report machine damage or faulty operation immediately. Do not use the machine if it is not in proper operating condition.

FOR SAFETY:

1. **Do Not Operate Machine:**
   - **Unless Trained And Authorized.**
   - **Unless Operation Manual Is Read And Understood.**
   - **In Flammable Or Explosive Areas Unless Designed For Use In Those Areas.**
   - **In Areas With Possible Falling Objects Unless Equipped With Overhead Guard.**

2. **Before Starting Machine:**
   - **Make Sure All Safety Devices Are In Place And Operate Properly.**
   - **Check Brakes And Steering For Proper Operation (If So Equipped).**

3. **When Using Machine:**
   - **Go Slow On Grades And Slippery Surfaces.**
   - **Use Care When Backing Machine.**
   - **Do Not Carry Riders On Machine.**
   - **Always Follow Safety And Traffic Rules.**

4. **Before Leaving Or Servicing Machine:**
   - **Stop On Level Surface.**
   - **Set Parking Brake.**
   - **Turn Off Machine And Remove Key.**

5. **When Servicing Machine:**
   - **Avoid Moving Parts. Do Not Wear Loose Jackets, Shirts, Or Sleeves When Working On Machine.**
   - **Block Machine Tires Before Jacking Machine Up.**
   - **Jack Machine Up At Designated Locations Only. Block Machine Up With Jack Stands.**
   - **Use Hoist Or Jack Of Adequate Capacity To Lift Machine.**
   - **Disconnect Battery Connections Before Working On Machine.**
   - **Avoid Contact With Battery Acid.**
   - **Use TENNANT Supplied Or Equivalent Replacement Parts.**

WARNING: Batteries Emit Hydrogen Gas. Explosion Or Fire Can Result. Keep Sparks And Open Flame Away. Keep Covers Open When Charging.

WARNING: Flammable Materials Can Cause An Explosion Or Fire. Do Not Use Flammable Materials In Tank(s).

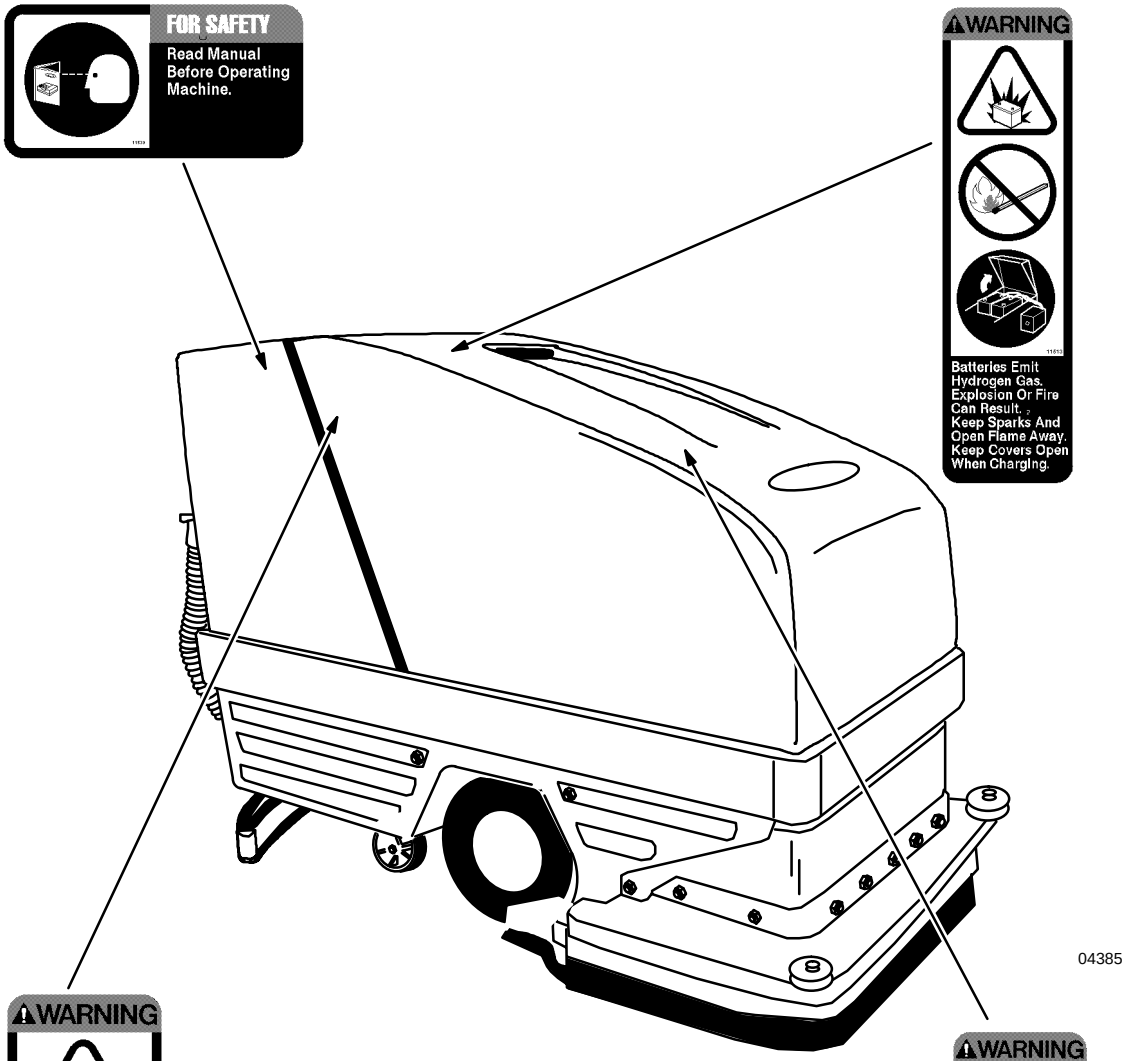
WARNING: Flammable Materials Or Reactive Metals Can Cause Explosion Or Fire. Do Not Pick Up.

WARNING: Hazardous Voltage. Shock Can Result. Disconnect Batteries Before Working On Machine. Only Qualified Personnel Should Work Inside Panel.

The following safety labels are mounted on the machine in the locations indicated. If these, or any label becomes damaged or illegible, install a new label in its place.

FOR SAFETY LABEL – LOCATED BELOW THE CONTROL PANEL.

BATTERY CHARGING WARNING LABEL – LOCATED NEXT TO THE MACHINE AND BATTERY CONNECTORS.



FLAMMABLE MATERIALS LABEL – LOCATED UNDER THE LEFT STEERING HANDLE

CLEANING AGENTS WARNING LABEL– LOCATED ON THE RECOVERY TANK.

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MACHINE SPECIFICATIONS – 465

POWER TYPE

Electric propelling motor – nominal voltage 36 VDC, 0.50 hp (0.37 kW) @ 320 rpm
Electric vacuum fan motor – nominal voltage 36 VDC, 0.85 hp (0.63 kW) @ 14000 rpm
Electric scrub brush motors, (2) nominal voltage 36 VDC, 0.84 hp (0.63 kW) @ 230 rpm maximum 0.50 hp (0.37 kW) @ 320 rpm continuous
Electric Pre-Sweep™ motor (option) – nominal voltage 36 VDC, 0.20 hp (0.15 kW) @ 250 rpm

Batteries (6) – 6 V, 220 A/h @ 20 hour rate
Battery charger options – 36 VDC 20 A, 115 VAC, 60 hz
36 VDC 20 A, 230 VAC, 50 hz

POWER TRAIN

Propelling – electric motor to differential driven

Scrub brushes – electric motor direct driven

Vacuum fan – electric motor direct driven

Pre-Sweep™ brush (option) – electric motor belt driven

STEERING

Type – manual

BRAKING SYSTEM

Parking brakes (option) – disc type, cable actuated

SUSPENSION SYSTEM

Front (2) – 4.10/3.50–6 pneumatic tires
Rear (2) – 5 in (130 mm) solid casters

SYSTEM FLUID CAPACITIES

Solution tank capacity – 22.1 gal (83.7 L)
Recovery tank capacity – 27 gal (102.2 L)

GENERAL MACHINE DIMENSIONS – CAPACITIES

Length – 63.5 in (1615 mm)
Length with Pre-Sweep™ – 82.4 in (2095 mm)

Width – 27.9 in (710 mm)
Width with squeegee – 31.9 in (810 mm)

Height – 44.3 in (1125 mm)

Track, front – 20.38 in (520 mm)
Track, rear – 17.06 in (435 mm)

Wheel base – 17.68 in (450 mm)

Scrub brush diameter – 14 in (355 mm)

Pre-Sweep™ brush (option) diameter – 5.5 in (140 mm)
Pre-Sweep™ brush (option) length – 20 in (510 mm)

Scrubbing path width – 26 in (650 mm)

Pre-Sweep™ hopper capacity – 1 cu ft (0.03 m^3)

Rear squeegee path width – 31.9 in (810 mm)

MACHINE WEIGHTS

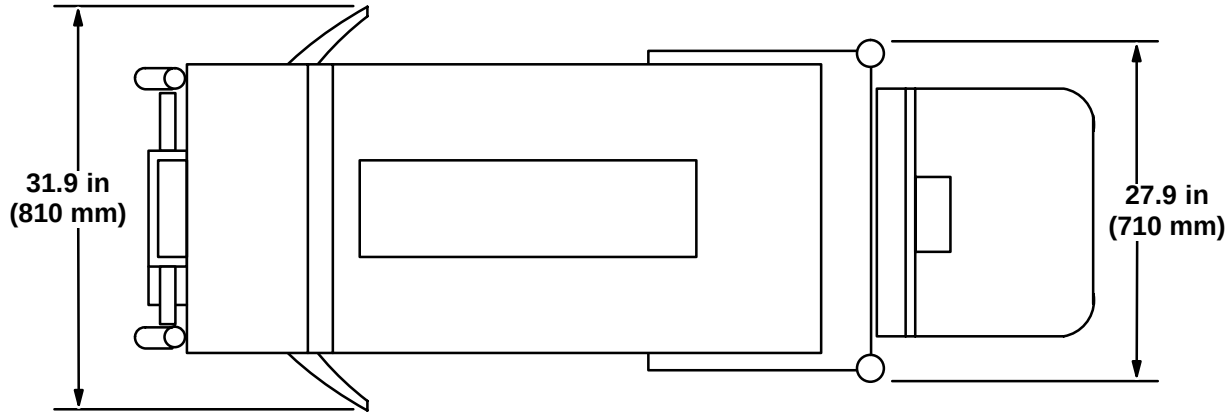
GVWR – 1150 lb (520 kg)

GENERAL MACHINE PERFORMANCE

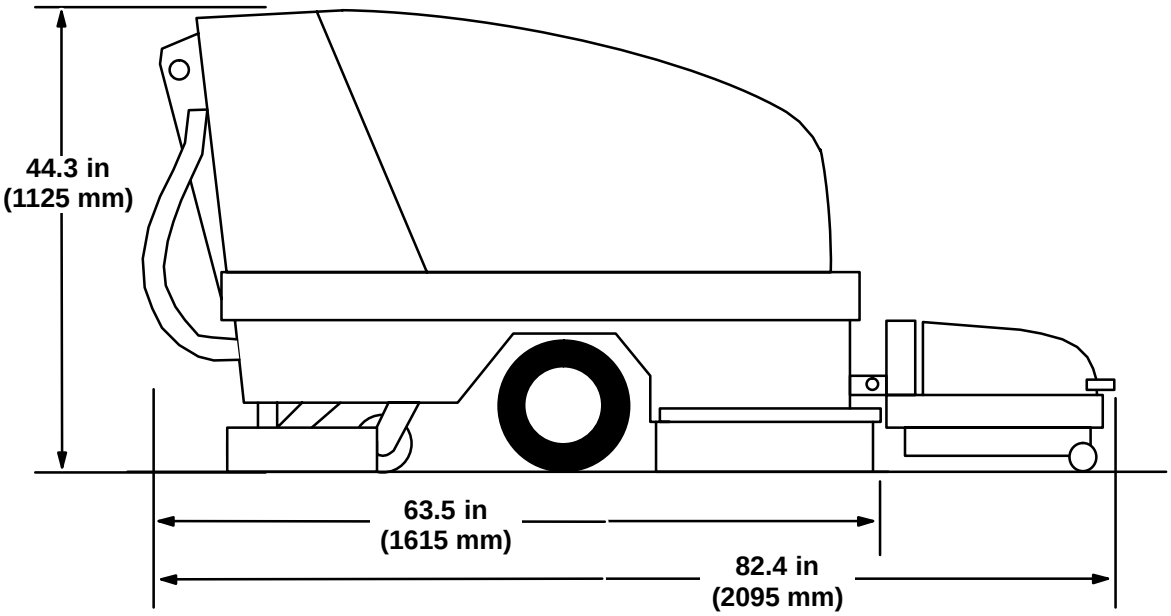
Maximum forward speed – 2.8 mph (4.5 km/h)
Maximum reverse speed – 1.5 mph (2.4 km/h)

Aisle turnaround width – 64.75 in (1645 mm)
Aisle turnaround width with Pre-Sweep™ – 82.00 in (2080 mm)

Maximum rated ramp climb angle – 6°
Maximum rated ramp descent angle – 6°



TOP VIEW



SIDE VIEW

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MACHINE DIMENSIONS – 465

MACHINE SPECIFICATIONS – 480/480EE

POWER TYPE

Electric propelling motor – nominal voltage 36 VDC, 0.50 hp (0.37 kW) @ 320 rpm
Electric vacuum fan motor(480) – nominal voltage
36 VDC, 0.85 hp (0.63 kW) @ 14000 rpm
Electric vacuum fan drive motor(480EE) nominal voltage 36 VDC,
1.00 hp (0.74 kw) @ 2800
Electric scrub brush motors, (2) nominal voltage 36 VDC,
0.84 hp (0.63 kW) @ 230 rpm maximum
0.50 hp (0.37 kW) @ 320 rpm continuous
Electric Pre-Sweep™ motor (option) – nominal voltage 36 VDC, 0.20 hp (0.15 kW) @ 250 rpm

Batteries (480) (6) – 6 V,
220 A/h @ 20 hour rate
Batteries (480EE and heavy duty option) (6) – 6 V, 305 A/h @ 20 hour rate
Battery charger options – 36 VDC 20 A,
115 VAC, 60 hz
36 VDC 20 A, 230 VAC, 50 hz

POWER TRAIN

Propelling – electric motor to differential driven

Scrub brushes – electric motor direct driven

Vacuum fan (480) – electric motor direct driven

Vacuum fan (480EE) – electric motor belt driven

Pre-Sweep™ brush (option) – electric motor belt driven

STEERING

Type – manual

BRAKING SYSTEM

Parking brakes (option) – disc type, cable actuated

SUSPENSION SYSTEM

Front (2) – 4.10/3.50–6 pneumatic tires
Rear (2) – 5 in (130 mm) solid casters

SYSTEM FLUID CAPACITIES

Solution tank capacity – 27.5 gal (104.1 L)
Recovery tank capacity – 31 gal (117.4 L)

GENERAL MACHINE DIMENSIONS – CAPACITIES

Length – 66.5 in (1690 mm)
Length with Pre-Sweep™ – 86.1 in (2190 mm)

Width – 35.1 in (890 mm)
Width with squeegee – 37.6 in (955 mm)

Height – 44.3 in (1125 mm)

Track, front – 20.38 in (520 mm)
Track, rear – 17.06 in (435 mm)

Wheel base – 17.68 in (450 mm)

Scrub brush diameter – 16 in (405 mm)

Pre-Sweep™ brush (option) diameter – 5.5 in (140 mm)
Pre-Sweep™ brush (option) length – 26 in (660 mm)

Scrubbing path width – 32 in (800 mm)

Pre-Sweep™ hopper capacity – 1.25 cu ft (0.04 m^3)

Rear squeegee path width – 37.5 in (955 mm)

MACHINE WEIGHTS

GVWR (480) – 1450 lb (658 kg)

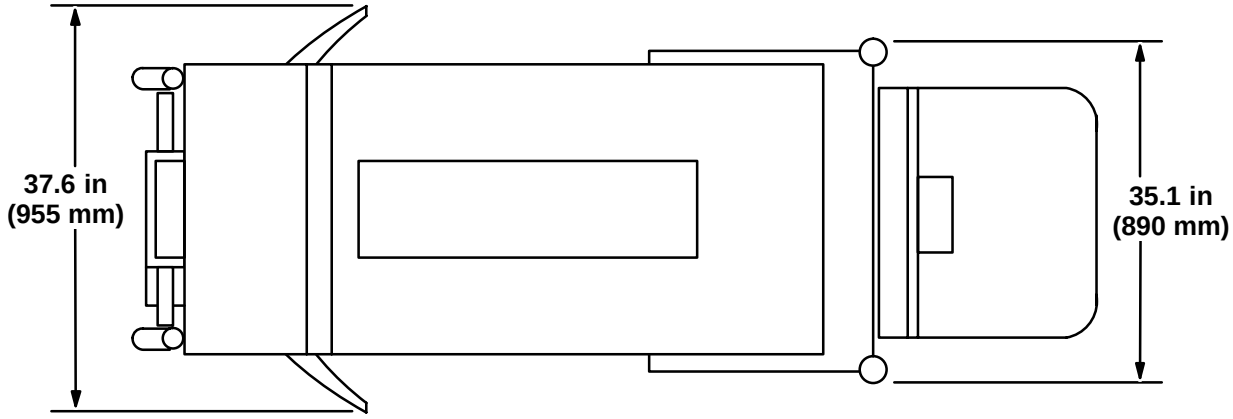
GVWR (480EE) – 1459 lb (662 kg)

GENERAL MACHINE PERFORMANCE

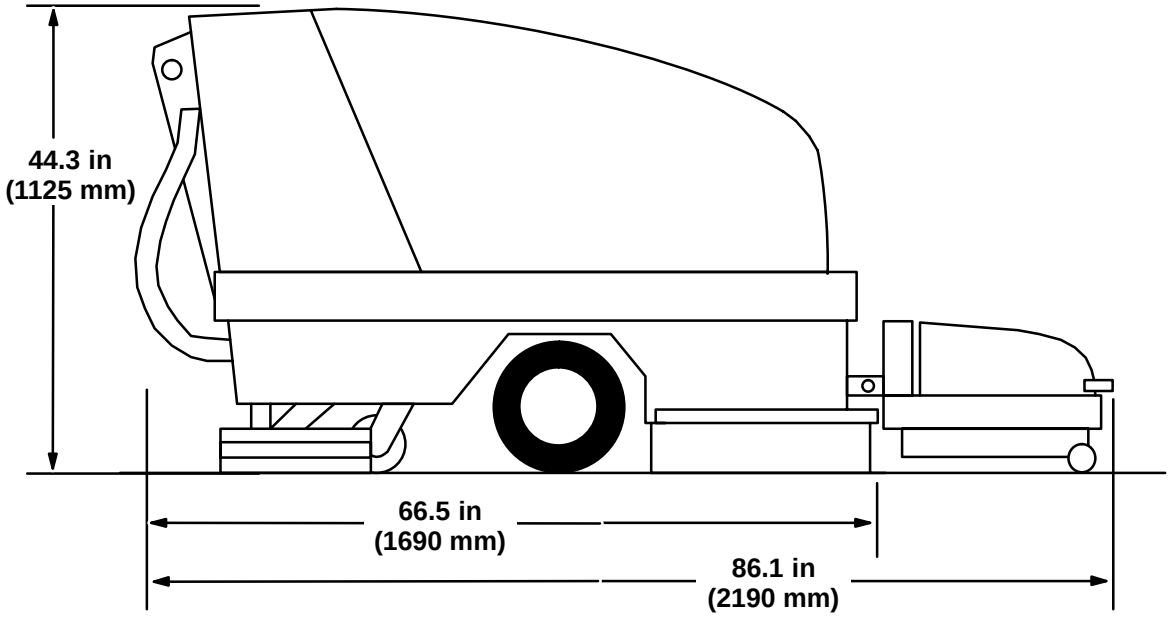
Maximum forward speed – 2.8 mph (4.5 km/h)
Maximum reverse speed – 1.5 mph (2.4 km/h)

Aisle turnaround width – 68.80 in (1750 mm)
Aisle turnaround width with Pre-Sweep™ – 86.40 in (2200 mm)

Maximum rated ramp climb angle – 6°
Maximum rated ramp descent angle – 6°



TOP VIEW



SIDE VIEW

04340

MACHINE DIMENSIONS – 480/480EE

MACHINE SPECIFICATIONS – 490

POWER TYPE

Electric propelling motor – nominal voltage
36 VDC, 0.50 hp (0.37 kW) @ 320 rpm
Electric vacuum fan motor – nominal voltage
36 VDC, 1.25 hp (0.93 kW) @ 10500 rpm
Electric scrub brush motors, (2)
nominal voltage 36 VDC,
1.20 hp (0.89 kW) @ 250 rpm maximum
0.80 hp (0.60 kW) @ 320 rpm continuous
Batteries (6) – 6 V, 220 A/h @ 20 hour rate
Batteries (heavy duty option) (6) – 6 V,
305 A/h @ 20 hour rate
Battery charger options – 36 VDC 30 A,
115 VAC, 60 hz
36 VDC 30 A, 230 VAC, 50 hz

POWER TRAIN

Propelling – electric motor to differential driven

Scrub brushes – electric motor direct driven

Vacuum fan – electric motor direct driven

STEERING

Type – manual

BRAKING SYSTEM

Parking brakes (option) – disc type, cable actuated

SUSPENSION SYSTEM

Front (2) – 4.10/3.50–6 pneumatic tires
Rear (2) – 5 in (130 mm) solid casters

SYSTEM FLUID CAPACITIES

Solution tank capacity – 27.5 gal (104.1 L)
Recovery tank capacity – 31 gal (117.4 L)

GENERAL MACHINE DIMENSIONS – CAPACITIES

Length – 67.3 in (1710 mm)

Width – 39.0 in (990 mm)
Width with squeegee – 42.8 in (1090 mm)

Height – 44.3 in (1125 mm)

Track, front – 20.38 in (520 mm)
Track, rear – 17.06 in (435 mm)

Wheel base – 17.68 in (450 mm)

Scrub brush diameter – 18 in (455 mm)

Scrubbing path width – 36 in (914 mm)

Rear squeegee path width – 42.8 in (1090 mm)

MACHINE WEIGHTS

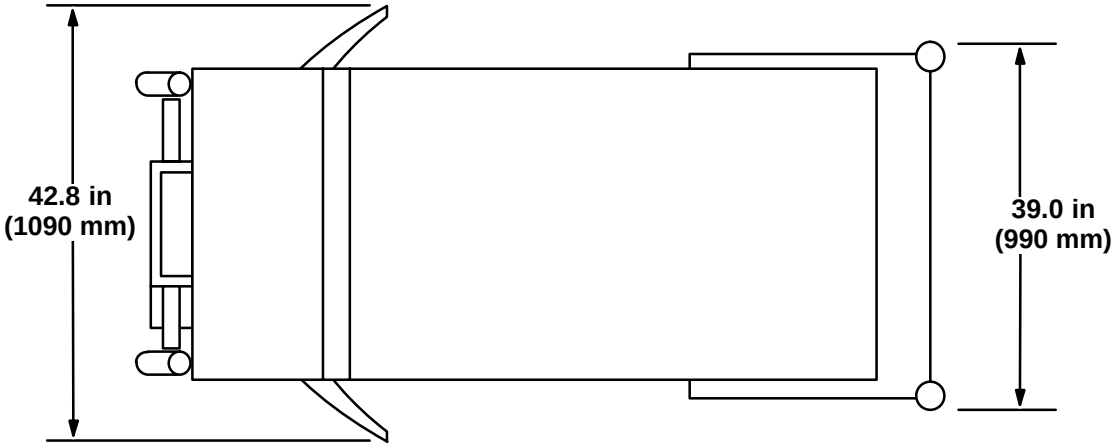
GVWR – 1554 lb (705 kg)

GENERAL MACHINE PERFORMANCE

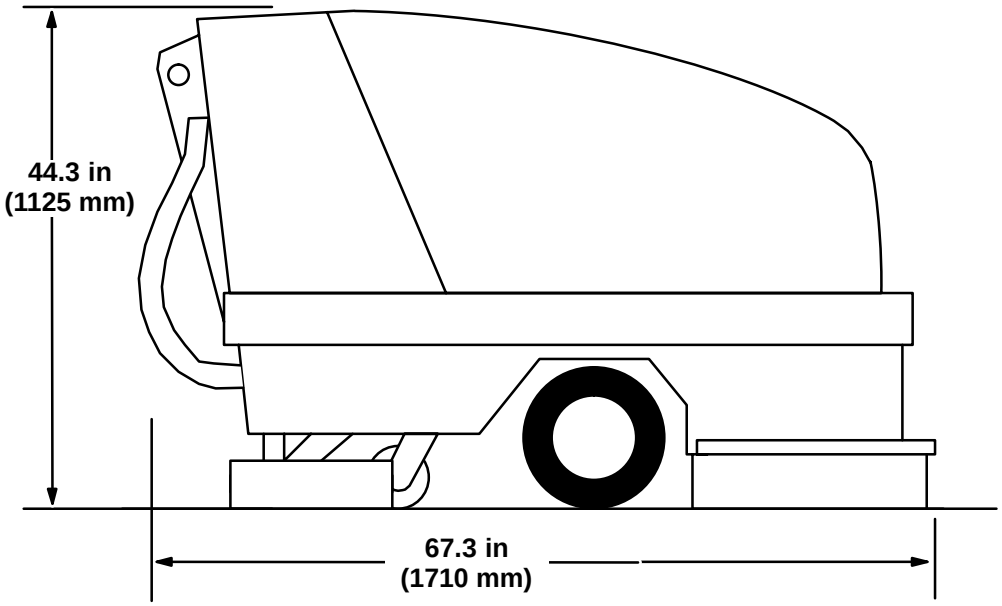
Maximum forward speed – 2.8 mph (4.5 km/h)
Maximum reverse speed – 1.5 mph (2.4 km/h)

Aisle turnaround width – 70.9 in (1801 mm)

Maximum rated ramp climb angle – 6°
Maximum rated ramp descent angle – 6°



TOP VIEW



SIDE VIEW

06311

MACHINE DIMENSIONS – 490

SECTION 2

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PREPARATION FOR OPERATION

AFTER UNCRATING AND BEFORE OPERATING MACHINE:

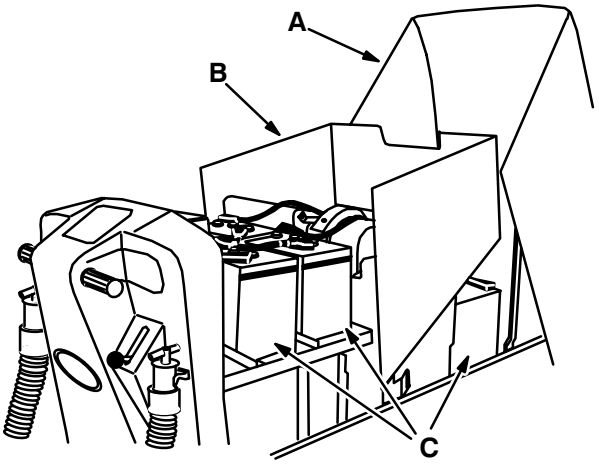
1. Check the machine for shipping damage.

2. Read this manual carefully before operating or servicing the machine.

FOR SAFETY: Do Not Operate The Machine Unless Operation Manual Is Read And Understood.

3. Lift open the machine hood, then tilt the rear cover forward.

OPEN BATTERY COVERS



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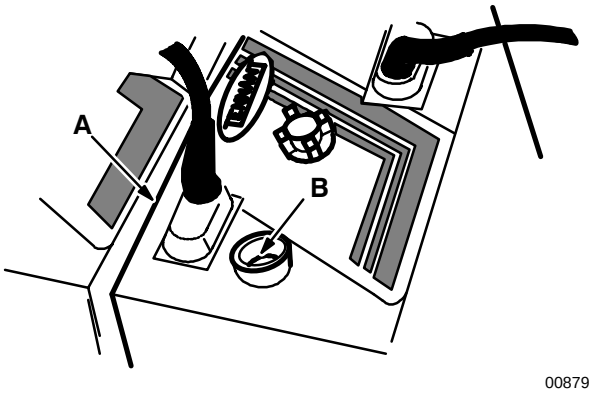
A. Machine Hood
B. Rear Cover
C. Batteries

4. Check the batteries electrolyte level as described in *BATTERIES* in the *MAINTENANCE* section.

CHECKING BATTERY ELECTROLYTE LEVEL



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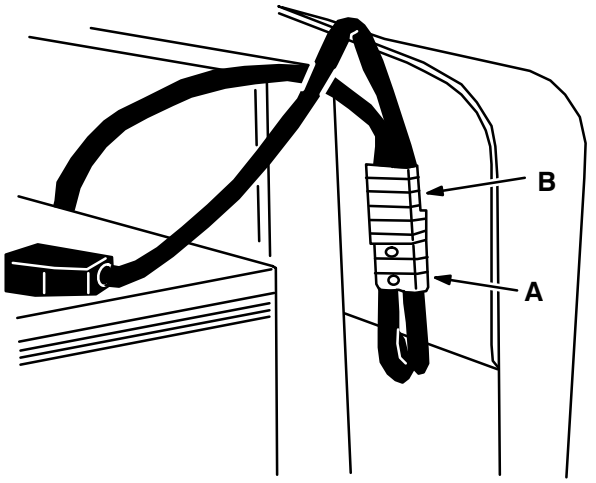
A. Battery
B. Electrolyte Indicator Ring

FOR SAFETY: When Servicing Machine, Avoid Contact With Battery Acid.

5. Check the battery specific gravity to determine the state of charge as described in *BATTERIES* in the *MAINTENANCE* section. Charge the batteries if necessary.

6. Connect the battery connector to the machine connector.

MACHINE BATTERY CONNECTORS



04343

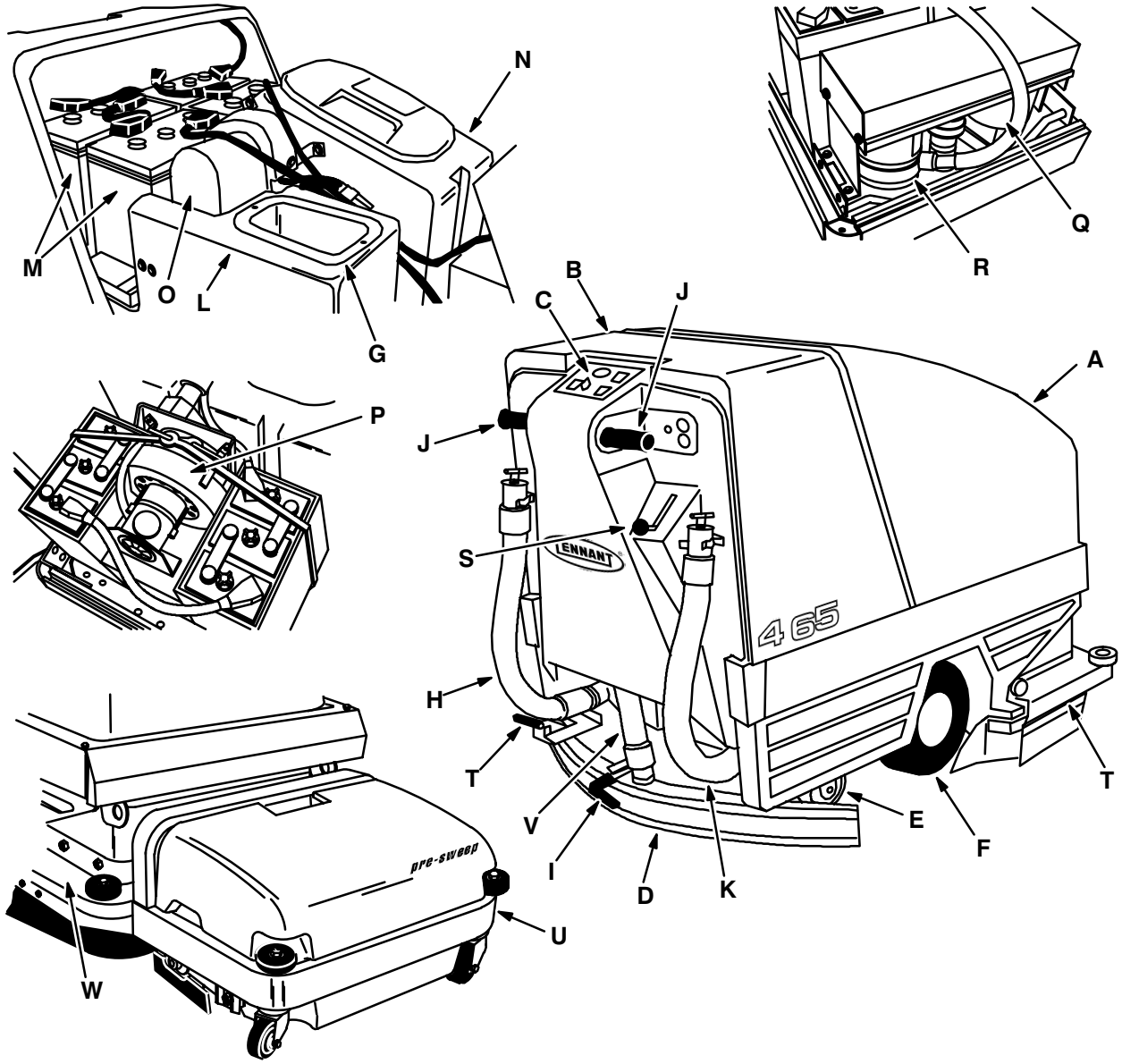
A. Machine Connector
B. Battery Connector

7. Install scrub brushes as described in *SCRUB BRUSHES* in the *MAINTENANCE* section.

8. Pre-Sweep™ machines: Install Pre-Sweep™ assembly as described in *TO MOUNT PRE-SWEEP™*.

OPERATION OF CONTROLS

MACHINE COMPONENTS



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- A. Machine Hood
- B. Rear Cover
- C. Control Panel
- D. Squeegee
- E. Rear Caster
- F. Front Wheel
- G. Soap Basket
- H. Recovery Tank Drain Hose
- I. Squeegee Lever
- J. Steering Handle
- K. Solution Tank Drain Hose
- L. Solution Tank
- M. Batteries
- N. Recovery Tank
- O. Vacuum Fan (465/480)
- P. Vacuum Fan (490)
- Q. Vacuum Fan (480EE)
- R. Vacuum Fan Drive Motor (480EE)
- S. Solution Lever
- T. Parking Brake Lever
- U. Pre-Sweep™
- V. Squeegee Suction Hose
- W. Scrub Head Cover

HOW IT WORKS

The Model 465, 480, and 490 are walk-behind scrubbers.

The machines are propelled by a single electric motor system. Twisting the steering handles moves the machine forward or backward. Pulling the steering handle nearest the direction of travel steers the machine.

The main scrubbing components include a solution tank, two disk-type brushes, a rear squeegee, a vacuum fan, and a recovery tank.

Water and detergent solution flows from the solution tank through the water control valve to the scrub brushes. The rotating scrub brushes scrub the floor. As the machine moves forward, the rear squeegee collects the dirty solution and channels it into the vacuum of the squeegee pickup hose. The pickup hose deposits the dirty solution in the recovery tank.

Machines with the ES™ accessory filter the dirty solution in the recovery tank and return it to the solution tank.

INSTRUMENT PANEL SYMBOLS

The symbols are used to identify controls and displays on the machine:

ES™

Key Switch

Scrub Brush Up

Scrub Brush Down and On

Vacuum Fan

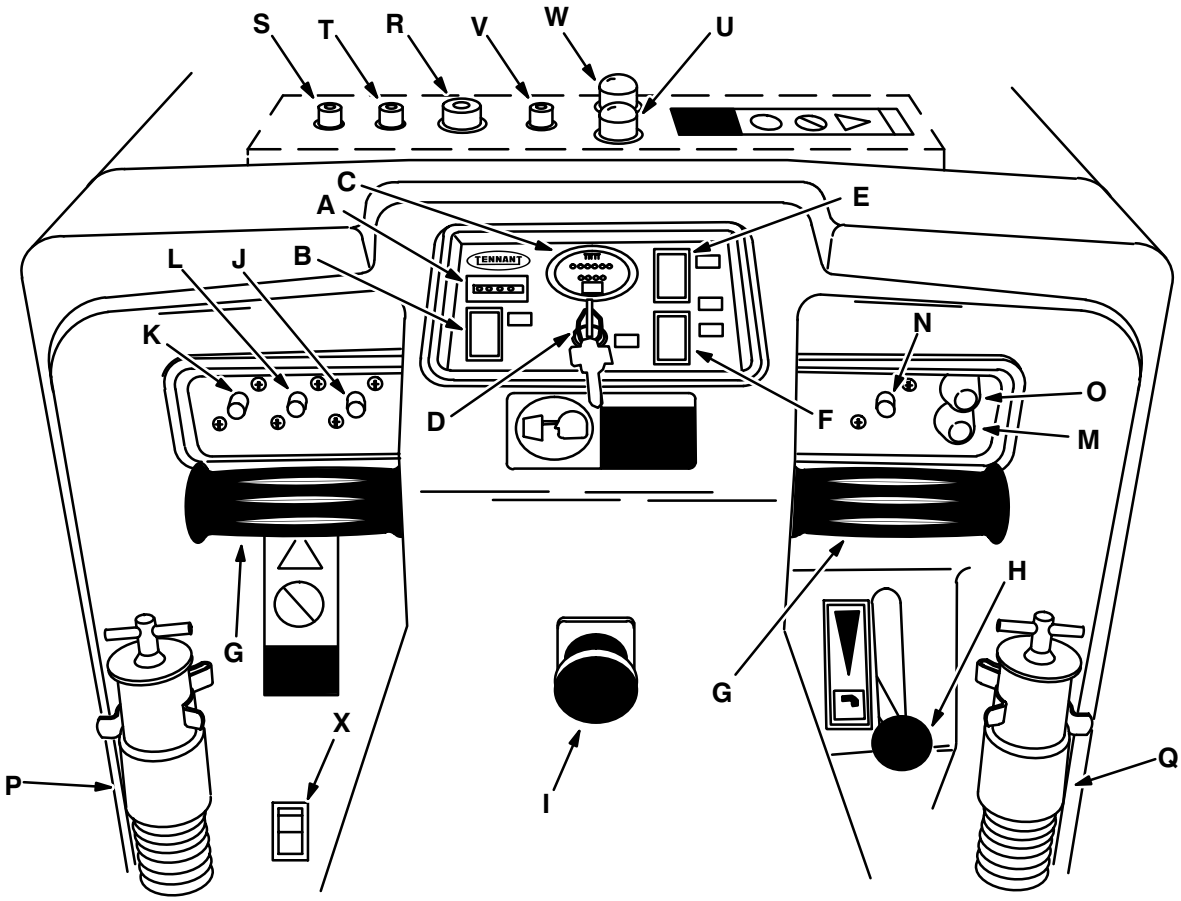
Brush Pressure

Battery

Cleaning Solution

Variable Rate

CONTROLS AND INSTRUMENTS



A. Hour Meter
B. ES™ Switch
C. Brush Pressure - Battery Indicator
D. Key-Operated On-Off Switch
E. Scrub Brush Switch
F. Vacuum Fan Switch
G. Steering Handles
H. Solution Lever
I. Auto Stop Switch
J. Circuit Breaker 1 (465/480/490)
K. Circuit Breaker 2 (465/480/490)
L. Circuit Breaker 3 (465/480/490)
M. Circuit Breaker 4 (465/480/490)
N. Circuit Breaker 5 (465/480/490)
O. Circuit Breaker 6 (465/480/490)
P. Recovery Tank Drain Hose
Q. Solution Tank Drain Hose
R. Circuit Breaker 1 (480EE)
S. Circuit Breaker 2 (480EE)
T. Circuit Breaker 3 (480EE)
U. Circuit Breaker 4 (480EE)
V. Circuit Breaker 5 (480EE)
W. Circuit Breaker 6 (480EE)
X. Power Wand Switch

HOUR METER

The hour meter records the number of hours the machine has operated. This information is useful in determining when to service the machine.

ES™ SWITCH

The ES™ switch controls the solution recycling system on machines with the ES™ accessory.

To start the ES™ pump, place the ES™ switch in the top position. The ES™ pump may not start right away. It will start as the tank fills up. The machine will start with the ES™ system on if the ES™ switch is in the top position before the machine is started.

To stop the system, place the ES™ switch in the bottom position.

BRUSH PRESSURE – BATTERY INDICATOR

The brush pressure portion of the indicator indicates how hard the scrub brushes are working. Under normal operating conditions, the brush pressure indicator light should be green. If the indicator light turns amber or red, it indicates excessive brush pressure. Excessive brush pressure will cause the brush drive circuit breaker to trip. If the brush drive circuit breaker trips or the brush pressure indicator is amber or red, lighten the brush pressure by raising the scrub head.

The battery portion of the indicator indicates the charge level of the batteries. It displays the charge level when the brushes are operating.

The display should be on the 1 mark of the gauge when the batteries are fully charged. As the batteries discharge, the display will move near the 0 mark. The batteries should be recharged when the red display near the 0 mark lights.

When the machine is left overnight with less than a full charge, the display may indicate a full charge. It is reading the surface charge level – not the true charge level. After running the machine a few minutes, the gauge will give the correct charge level.

NOTE: Do not charge the batteries more often than is necessary. This will prolong the life of the batteries. Do not allow the batteries to become fully discharged as this will also damage the batteries. See BATTERIES in the MAINTENANCE section.

KEY-OPERATED ON-OFF SWITCH

The key-operated on-off switch controls all machine power except power to the vacuum fan. To allow the machine to operate, turn the key-operated on-off switch clockwise.

To turn off the machine, turn the key-operated on-off switch counter-clockwise.

SCRUB BRUSH SWITCH

The scrub brush switch controls scrub brush position and rotation.

To lower and start the scrub brushes turning, hold the switch in the bottom (Scrub Brush Down and On) position until the proper brush pressure is reached.

To raise and stop the scrub brushes, hold the switch in the top (Scrub Brush Up) position until the brush pressure indicator lights go off.

VACUUM FAN SWITCH

The vacuum fan switch starts the vacuum system.

To start the vacuum fan, place the vacuum switch in the top (Vacuum Fan) position.

To stop the vacuum fan, place the vacuum fan switch in the bottom position.

STEERING HANDLES

The steering handles control the speed and direction of the machine.

To move the machine forward, twist the handles forward. Twisting the handles a little will move the machine slowly. Twisting the handles all of the way forward will move the machine at top speed.

To move the machine backward, twist the handles backward.

To stop the machine, release the handles.

To turn the machine, pull the handle nearest the direction of the turn. Pull the right handle to turn right. Pull the left handle to turn left.

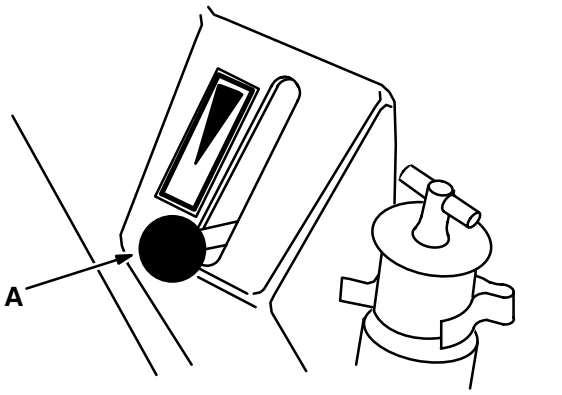
SOLUTION LEVER

The solution lever controls the flow of solution to the floor.

To start solution flow, move the solution lever up slightly. To increase to full flow, move the lever all the way up.

To stop solution flow, move the lever all of the way down.

SOLUTION LEVER



A. Solution Lever

AUTO STOP SWITCH

The auto stop switch cuts all power to the machine.

To stop all power to the machine, push the auto stop switch. To start the machine again, turn the key-operated on-off switch clockwise to turn the machine off. Then turn the key-operated on-off switch all the way clockwise and release in order to turn the machine back on.

POWER WAND SWITCH

The power wand switch controls the solution to the power wand option.

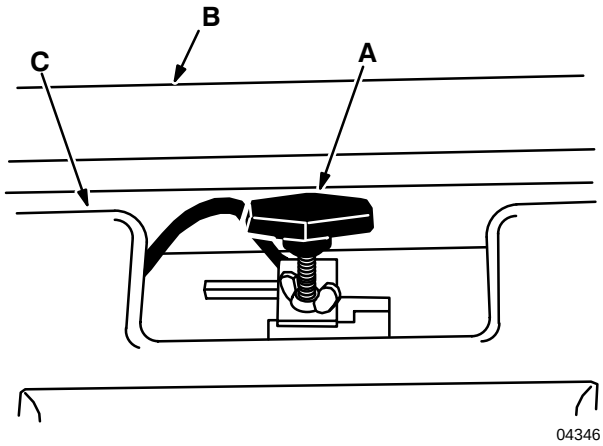
To start the solution flow to the power wand, press the top or **ON** position of the switch. To stop the solution flow to the power wand, press the bottom or **OFF** postion of the switch.

PRE-SWEEP™ BRUSH HANDLE

The Pre-Sweep™ brush handle lowers and raises the Pre-Sweep™ brush. When the brush is lowered, it will rotate when the scrub brushes are operating. When the brush is in the raised position it will not rotate. The machine can be operated with the Pre-Sweep™ assembly mounted to the machine even if the brush in the raised position.

To lower the brush, pull up and to the right and lower the handle. To raise the brush, pull up on the handle and over to the left until the handle catches.

PRE-SWEEP™ BRUSH HANDLE



A. Pre-Sweep™ Brush Handle
B. Pre-Sweep™ Frame
C. Pre-Sweep™ Hopper

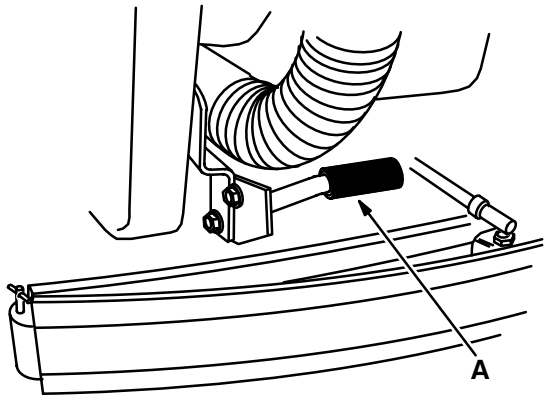
PARKING BRAKE LEVER

The parking brake lever is present on machines with the parking brake accessory. It operates the front wheel brakes.

To set the parking brake, step on the lever.

To release the parking brake, pull the lever up with the toe of your shoe.

PARKING BRAKE



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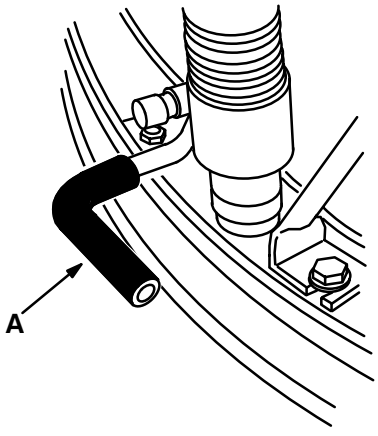
A. Parking Brake Lever

SQUEEGEE LEVER

The squeegee lever lowers and raises the rear squeegee.

To lower the rear squeegee, step down on the squeegee lever. To raise the rear squeegee, pull up on the squeegee lever with the toe of your shoe.

SQUEEGEE LEVER



04381

A. Squeegee Lever

CIRCUIT BREAKERS

Circuit breakers are resetable circuit protection devices designed to stop the flow of current in the event of a circuit overload. Once tripped, circuit breakers must be manually reset by pressing the reset button. Circuit breakers with a rating higher than 10 Amps must be allowed to cooI for about two minutes before resetting. If the overload which caused the circuit breaker to trip is still present in the circuit, the circuit breaker will continue to stop current flow until the overload is corrected.

The circuit breakers and fuses are located on either side of the control panel.

The following chart shows the various circuit breakers, and the electrical components they protect.

Protective Device	Rating	Circuit Protected
CB-1	20 A	Vac fan motor (465/480)
CB-1	40 A	Vac fan motor (480EE)
CB-1	35 A	Vac fan motor (490)
CB-2	20 A	Left scrub brush motor (465/480)
CB-2	25 A	Left scrub brush motor (480EE/490)
CB-3	20 A	Right scrub brush motor (465/480)
CB-3	25 A	Right scrub brush motor (480EE/490)
CB–4	10 A	Pre-Sweep™
CB-5	20 A	Propelling (465/480/490)
CB-5	25 A	Propelling (480EE)
CB-6	7 A	Brush Actuator, ES™ Pump

MACHINE OPERATION

NORMAL SCRUBBING OPERATION

A normal scrubbing operation consists of eight typical operations: pre–start checklist, starting machine, filling solution tank, scrubbing, draining and cleaning recovery tank, post operation checklist – machine on, stopping machine, and post operation checklist – machine off.

PRE–START CHECKLIST lists things to check before starting the machine.

TO START MACHINE lists the steps required to start the machine.

TO FILL SOLUTION TANK lists the steps required to fill the solution tank.

TO SCRUB lists things to keep in mind before and during the scrubbing operation.

TO DRAIN AND CLEAN RECOVERY TANK lists the steps required to empty and clean the recovery tank.

POST OPERATION CHECKLIST – MACHINE ON lists things to check before stopping the machine motor.

TO STOP MACHINE lists the steps required to stop the machine.

POST OPERATION CHECKLIST – MACHINE OFF lists things to check after stopping the machine motor.

PRE–START CHECKLIST

Check under the machine for leaks.

Check the controls for proper operation.

Check the service records to determine service requirements.

TO START MACHINE

1. Turn the key-operated on-off switch clockwise to turn the machine on.
2. Release the machine parking brake, if equipped.
3. Drive the machine to the solution filling site.

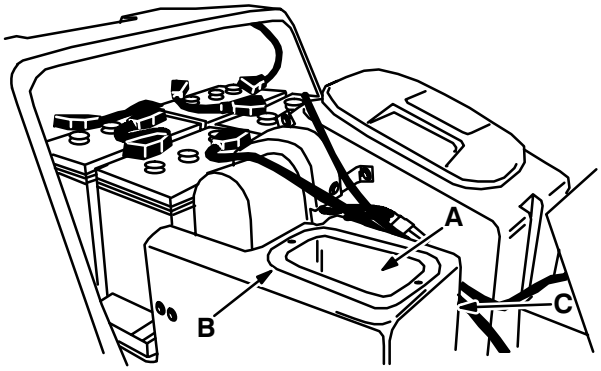
TO FILL SOLUTION TANK

1. Turn off the machine and set the parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

2. Pull the solution lever all the way down to stop the solution flow.
3. Lift open the machine hood.

SOLUTION TANK



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A. Fill Opening
B. Soap Basket
C. Solution Tank

4. Pour the required amount of detergent into the tank or soap basket. Fill the solution tank with water to 3 in (75 mm) below the tank opening. The water must not be hotter than 130° F (54° C) or tank damage may occur.

NOTE: Floor conditions, water condition, amount of soilage, type of soilage, brush action, and squeegee action all play an important role in determining the type and the concentration of detergent to be used. For specific recommendations, call your Tennant Company representative.

WARNING: Flammable Materials Can Cause An Explosion Or Fire. Do Not Use Flammable Materials In Tank(s).

5. Close the machine hood.

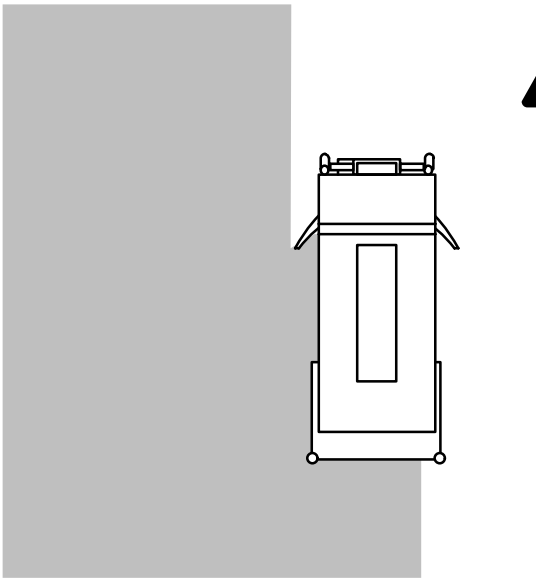
TO SCRUB

Plan the scrubbing in advance. Try to arrange long runs with minimum stopping and starting. Do an entire floor or section at one time.

Pick up oversize debris before scrubbing. Remove bulky debris from aisles before scrubbing. Pick up pieces of wire, twine, string, etc., which could become entangled in the scrub brushes.

Try to scrub as straight a path as possible. Avoid bumping into posts or scraping the sides of the machine. When scrubbing dead end aisles, start at the end and scrub your way out of them. Allow a few inches overlap of brush paths.

OVERLAPPING SCRUBBING PATHS



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Adjust the machine speed and solution flow as required. Use minimum solution flow required for the best scrubbing results.

When the recovery tank is almost full, the float switch will shut off the vacuum. The recovery tank will have to be drained and cleaned as described in *TO DRAIN AND CLEAN RECOVERY TANK*. Then refill the solution tank with clean water and detergent and continue scrubbing.

1. Turn the key-operated on-off switch clockwise to turn the machine on.
2. Release the machine parking brake, if equipped.
3. Drive the machine to the area to be scrubbed.
4. Pre-Sweep™ equipped machines: Lower the Pre-Sweep™ brush.
5. Place the vacuum fan switch in the top (Vacuum Fan) position.
6. Hold the scrub brush switch in the bottom (Scrub Brush Down and On) position until the proper brush pressure is reached.
7. Lower the rear squeegee.
8. Move the solution lever up to start solution flow.

   ES™ machines: Place the ES™ switch in the top position to start the ES™ pump.
9. Scrub as required.

WARNING: Flammable Materials Or Reactive Metals Can Cause Explosion Or Fire. Do Not Pick Up.

TO DRAIN AND CLEAN RECOVERY TANK

1. Move the solution lever all the way down to stop solution flow.

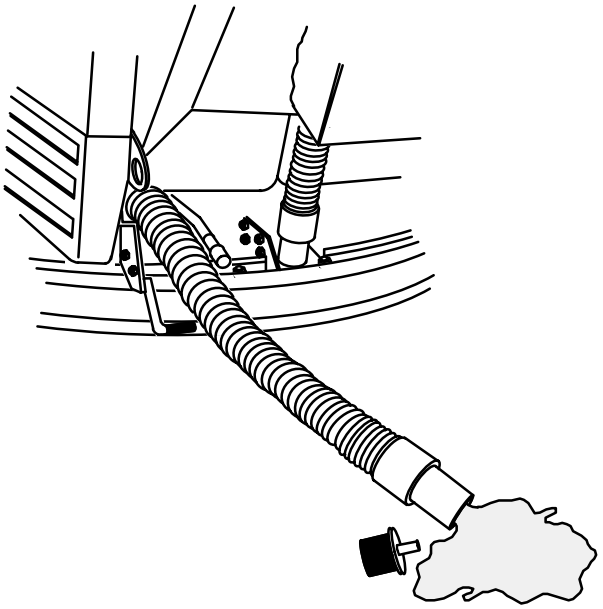
   ES™ machines: Place the ES™ switch in the bottom position to stop the ES™ pump.
2. Hold the scrub brush switch in the top (Scrub Brush Up) position until the brush pressure indicator lights go off.
3. Place the vacuum fan switch in the bottom position to stop the vacuum.
4. Stop the machine next to a floor drain.

5. Turn off the machine and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

6. Remove and unplug the recovery tank drain hose into a floor drain.

DRAINING RECOVERY TANK



04349

7. Open the machine hood.

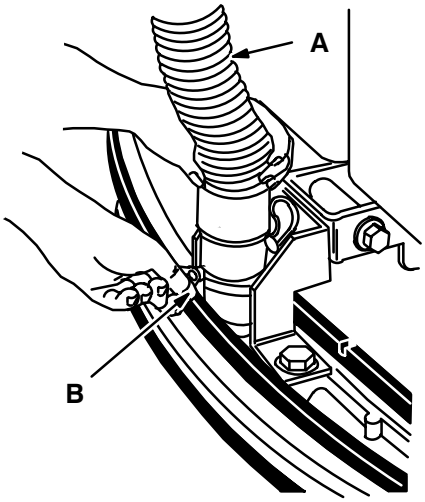
8. Remove the recovery tank cover and duct assembly.

9. Spray the inside of the recovery tank with clean water. Remove and clean the fan inlet screen, then place it back into the recovery tank. If the screen is not replaced, damage to the vacuum fan motor could take place. Do not use water hotter than 130° F (54° C) or use steam to clean the tank as it will damage it.

   ES™ machines: Flush the ES™ outlet filter and the solution tank outlet filter with water. Then add enough water to cover the recovery tank ES™ outlet filter and operate the ES™ pump to flush the system.

11. Remove the squeegee suction hose

REMOVING SQUEEGEE SUCTION HOSE



04373

A. Squeegee Hose
B. Clamp

12. Push a garden hose into the end of the squeegee suction hose. Turn on the vacuum. Turn on the garden hose.

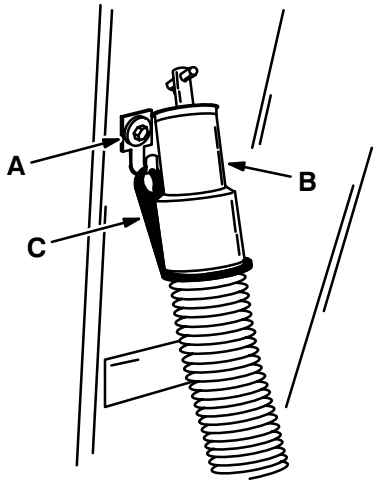
13. Work the garden hose up the squeegee suction hose to flush away any debris.

14. Turn off the garden hose and vacuum. Remove the garden hose from the suction hose and push the suction hose back onto the squeegee frame. Tighten the hose clamp around the suction hose.

15. Close the machine hood.

16. Plug and secure the drain hose in its storage clip.

SECURED DRAIN HOSE



A. Storage Clip
B. Drain Hose
C. Hose Strap

POST OPERATION CHECKLIST – MACHINE ON

Check the squeegees for proper deflection.

TO STOP MACHINE

1. Move the solution lever all the way down to stop solution flow.

   ES™ machines: Place the ES™ switch in the bottom position to stop the ES™ pump.

2. Hold the scrub brush switch in the top (Scrub Brush Up) position until the brush pressure indicator lights go off.

3. Place the vacuum fan switch in the bottom position to stop the vacuum.

4. Turn off the machine and set the parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

POST OPERATION CHECKLIST – MACHINE OFF

Check for wire or string tangled on the scrub brushes.

Check the squeegees for wear or damage.

Drain and clean the recovery tank.

ES™ machines: Drain and clean the solution tank. Backflush pump and hose.

Check the vacuum hoses for debris or obstructions.

Check for leaks.

DOUBLE SCRUBBING OPERATION

Double scrubbing is a method of removing heavy accumulations of soilage, dirt, wax, or spills. It involves making two passes over the area to be cleaned.

To double scrub, make a single pass over the surface being cleaned with the squeegee up and the vacuum system off. This dispenses solution and allows the brushes to scrub the debris loose. Allow the solution to soak on the floor for 15 to 20 minutes. Then make a second scrubbing pass in the normal manner with the squeegee down.

OPERATION ON GRADES

Drive the machine slowly on grades.

FOR SAFETY: When Using Machine, Go Slow On Grades And Slippery Surfaces.

The maximum rated climb and descent angle is 6° for all machines.

When descending ramps, control machine speed by using the steering handles to reduce the forward speed. The motor controls provide a natural braking action.

When climbing ramps, if the drive motor circuit breaker trips, walk the machine down the ramp to a level surface where the circuit breaker may be reset.

MACHINE TROUBLESHOOTING

Problem	Cause	Remedy
Trailing water – poor or no water pickup	Worn rear squeegee	Rotate or replace rear squeegee blade
	Rear squeegee out of adjustment	Adjust rear squeegee
	Vacuum hose clogged	Flush vacuum hoses
	Recovery tank full	Drain tank
	Float stuck shutting off vacuum	Clean float
	Debris caught on squeegee	Remove debris
	Foam filling recovery tank	Empty recovery tank; use less or change detergent
	Vacuum hose to rear squeegee disconnected or damaged	Reconnect or replace vacuum hose
	Recovery tank lid not seated on the recovery tank	Reinstall recovery tank lid
Little or no solution flow to floor	Solution tank empty	Fill solution tank
	Solution control cable broken or out of adjustment	Replace and/or adjust cable
	Solution supply lines plugged	Flush solution supply lines
Poor scrubbing performance	Debris caught on scrub brushes	Remove debris
	Improper detergent or brushes used	Check with TENNANT representative for advice
	Worn scrub brushes	Replace scrub brushes
ES™ system does not fill solution tank	Clogged solution pump or lines	Flush ES™ system

OPTIONS OPERATION

VACUUM WAND ATTACHMENT

The vacuum wand option gives the machine the added flexibility of picking up spills not accessible by the machine. A 90 in (2280 mm) long hose utilizes the machine vacuum system.

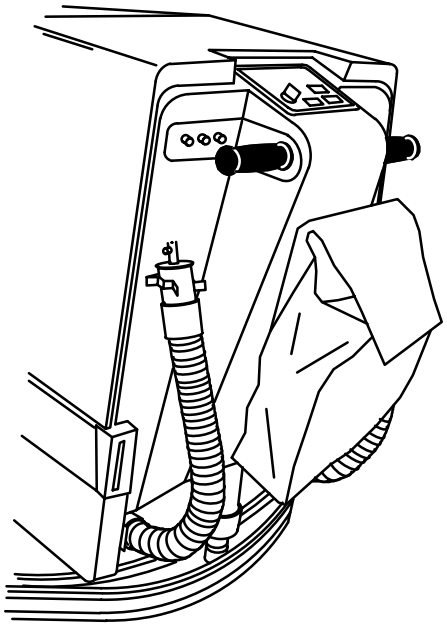
TO OPERATE VACUUM WAND ATTACHMENT

1. Turn the machine off and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

2. Remove the vacuum wand equipment from the vacuum wand bag.

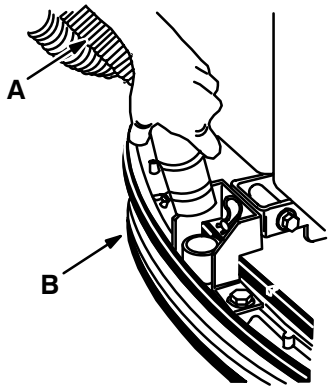
VACUUM WAND BAG



04387

3. Disconnect the squeegee suction hose from the squeegee assembly.

DISCONNECTING SQUEEGEE SUCTION HOSE



04363

A. Suction Hose
B. Squeegee

4. Push the vacuum wand hose connector into the squeegee suction hose.
5. Assemble the wand and hose.
6. Make sure the scrub brushes are raised.
7. Place the vacuum fan switch in the top (Vacuum Fan) position to start the vacuum fan.
8. Vacuum as required.
9. When finished, place the vacuum fan switch in the bottom position to stop the vacuum fan.
10. Remove the vacuum wand hose from the squeegee suction hose.
11. Reconnect the squeegee suction hose to the squeegee assembly.
12. Clean and rinse off the vacuum wand and equipment.
13. Store the vacuum wand equipment in the vacuum wand bag.

POWER WAND

The power wand uses the vacuum system and solution system of the machine. The wand allows scrubbing of floors which are out of reach by the machine.

TO OPERATE THE POWER WAND

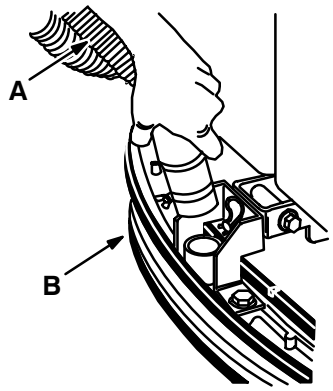
1. Turn off the machine and set the machine parking brake.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake(If Equipped), Turn Off Machine And Remove Key.

2. Remove the power wand equipment from the machine hood.

3. Pull the squeegee vacuum hose off the rear squeegee assembly.

DISCONNECTING SQUEEGEE SUCTION HOSE



04363

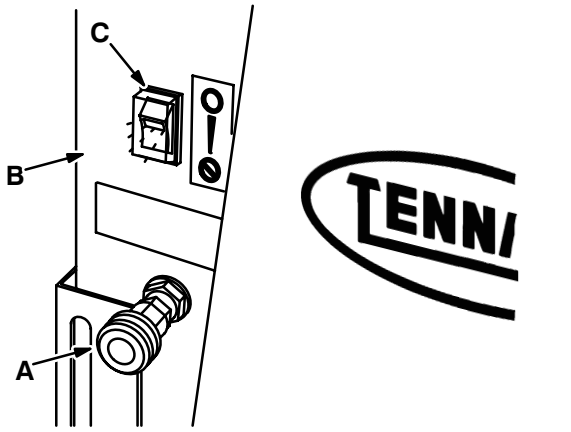
A. Squeegee Suction Hose
B. Rear Squeegee Assembly

4. Attach the adapter to the end of the power wand vacuum hose if not already connected.

5. Push the power wand vacuum hose onto the squeegee vacuum hose.

6. Attach the solution hose to the quick-disconnect on the machine.

SOLUTION QUICK-DISCONNECT

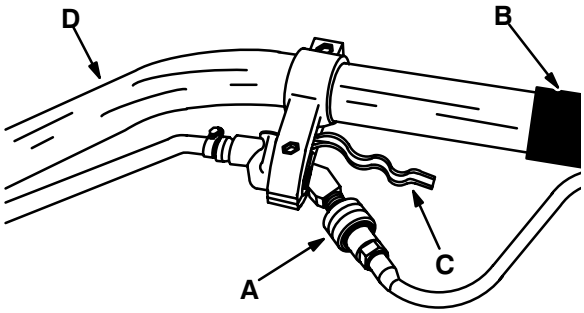


08078

A. Quick-disconnect
B. Rear Panel
C. Power Wand Switch

7. Attach the other ends of the solution and vacuum hoses to the power wand tool in the same way.

CONNECTING ATTACHMENT



06598

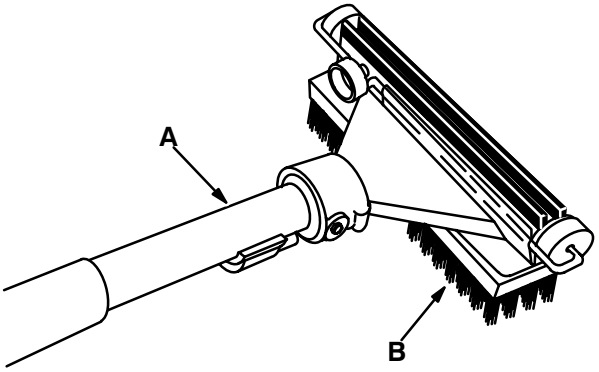
A. Solution Hose Quick-Disconnect
B. Vacuum Hose
C. Valve Handle
D. Selected Attachment

8. Make sure the scrub brushes are raised.

9. Place the vacuum fan switch in the top (Vacuum Fan) postion to start the fan.

10. Start the solution flow to the power wand by placing the power wand switch in the **ON** position.

11. Squeeze the solution lever on the power wand to spray solution on the floor. Scrub the floor with the brush side of the cleaning tool.

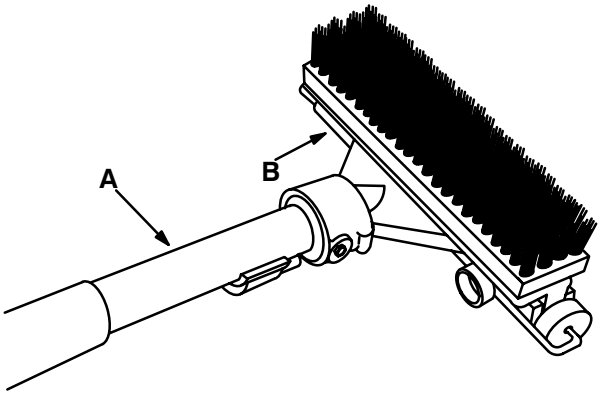


POWER WAND

A. Cleaning Tool
B. Brush

12. Vacuum the solution by turning the cleaning tool so the squeegee side is down.

POWER WAND

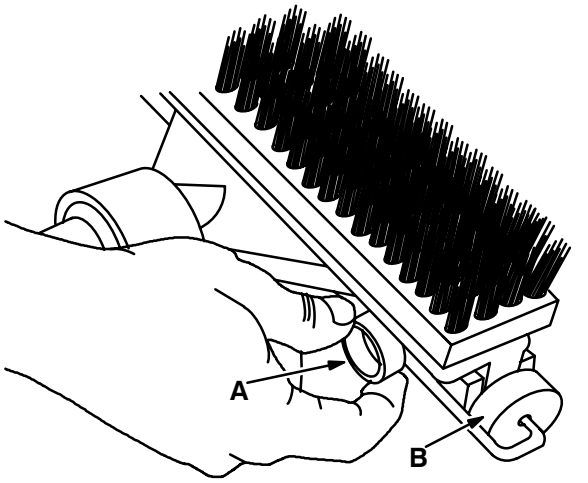


A. Cleaning Tool
B. Squeegee

If the Power wand is difficult to push or does not pickup the solution very well, adjust the roller wheels on the tool by turning the black adjustment knob.

NOTE: The wheels are properly adjusted when the squeegee blades deflect slightly while the tool is pushed back and forth.

ADJUSTING ROLLER WHEELS



A. Adjustment Knob
B. Roller Wheels

13. When finished, stop the solution flow to the power wand by putting the power wand switch in the **OFF** position.

14. Press the vacuum fan switch again to turn off the vacuum.

15. Disconnect the solution hose from the machine quick-disconnect.

16. Remove the power wand vacuum hose from the squeegee suction hose.

17. Reconnect the squeegee suction hose to the rear squeegee assembly.

18. Disconnect the vacuum and solution hoses from the power wand.

19. Replace the power wand equipment in its storage location on top of the machine hood.

PRE-SWEEP™

The Pre-Sweep™ assembly gives the machine added ability to pick up debris. The assembly is mounted to the front of the machine. It contains a brush which sweeps debris into a debris hopper. Periodically empty the hopper as it fills with debris.

The machine may be operated with or without the Pre-Sweep™ assembly. Refer to *PRE-SWEEP™* in the *MAINTENANCE* section for maintenance and adjustments.

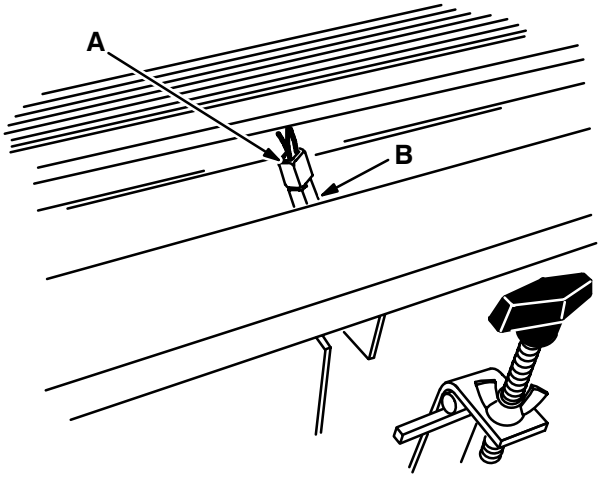
TO REMOVE PRE-SWEEP™

1. Turn the machine off and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

2. Unplug the Pre-Sweep™ assembly wire harness from the machine wire harness.

PRE-SWEEP™ WIRE HARNESS



04386

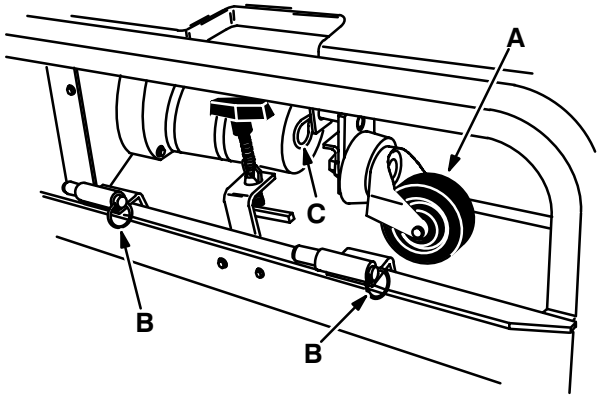
A. Machine Wire Harness
B. Pre-Sweep™ Wire Harness

3. Raise the Pre-Sweep™ brush.

4. Remove the two quick release pins from the machine mounting brackets and the Pre-Sweep™ assembly. Place the pins in the Pre-Sweep™ assembly.

5. Remove the cotter pin holding the third caster in its storage location.

PRE-SWEEP™ ASSEMBLY

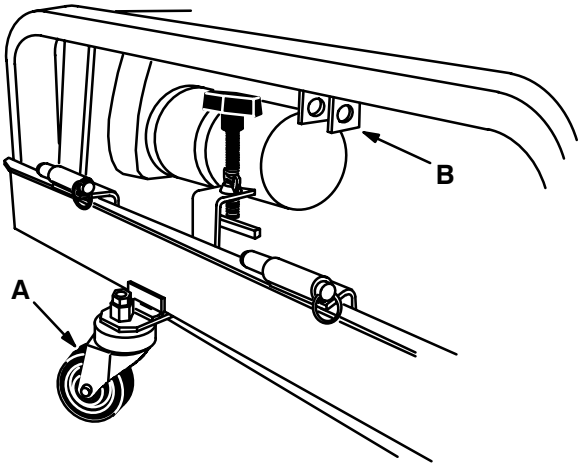


04384

A. Third Caster
B. Quick Release Pins
C. Cotter Pin

6. Mount the third caster to the Pre-Sweep™ frame.

PRE-SWEEP™ THIRD CASTER



04383

A. Third Caster
B. Storage Location

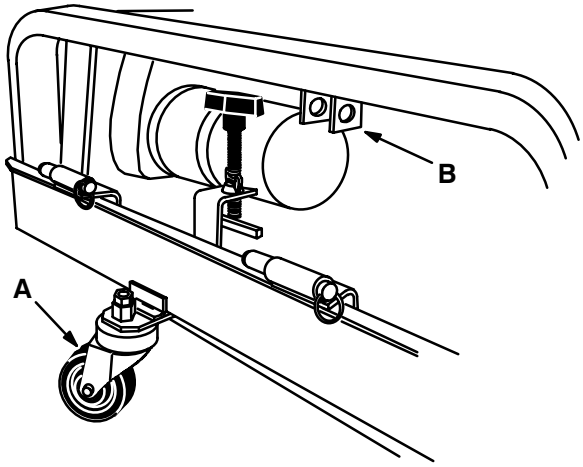
TO MOUNT THE PRE-SWEEP™

1. Turn the machine off and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

2. Pull out the cotter pin holding the third caster to the frame.

PRE-SWEEP™ THIRD CASTER



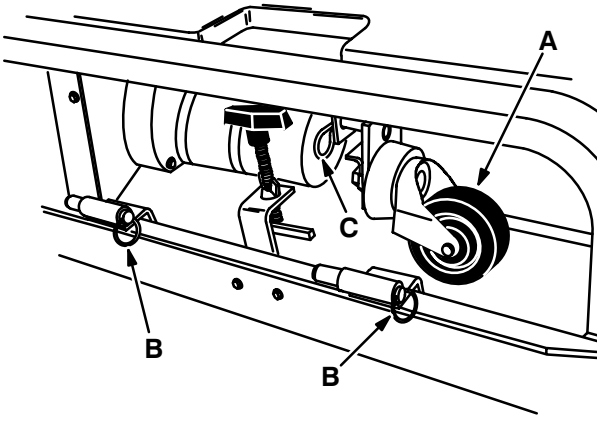
04383

A. Third Caster
B. Storage Location

3. Place the third caster in the storage location and secure with the cotter pin.

4. Remove the two quick release pins from the Pre-Sweep™ frame.

PRE-SWEEP™ ASSEMBLY

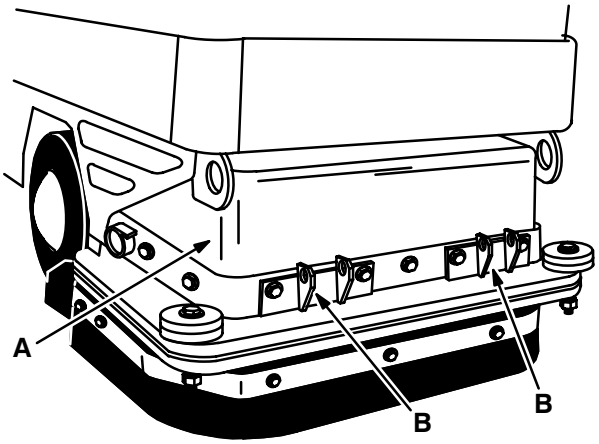


04384

A. Third Caster
B. Quick Release Pins
C. Cotter Pin

5. Line up the quick release on the Pre-Sweep™ with the mounting brackets on the front of the machine.

PRE-SWEEP™ MOUNTING BRACKETS



04366

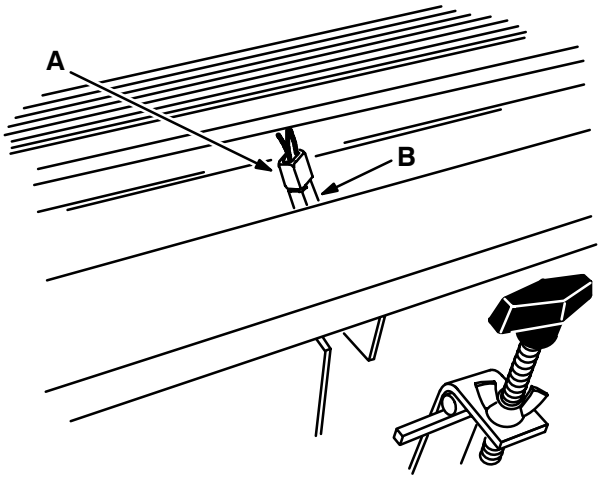
A. Front of Machine
B. Mounting Bracket

6. Push the quick release pins through the mounting bracket holes and the quick release pin holes.

7. Remove the debris hopper from the Pre-Sweep™ assembly.

8. Plug the wire harness from the machine into the Pre-Sweep™ assembly wire harness.

PRE-SWEEP™ WIRE HARNESS



A. Machine Wire Harness
B. Pre-Sweep™ Wire Harness

9. Replace the debris hopper.

TRANSPORTING MACHINE

PUSHING OR TOWING MACHINE

The machine may be pushed or towed up to 4 mph (6 km/h) by the machine frame. Use care when attaching towing cables or chains to avoid damaging the machine.

MACHINE JACKING

The machine may be jacked up for service at the designated locations. Use a jack of adequate capacity and good working condition. Always stop the machine on a flat, level surface and block the tires before jacking the machine up.

The front jacking location is the flat bottom edge of the front of the machine frame. The rear jacking locations are on the flat bottom edge of the rear of the machine frame.

TO JACK UP MACHINE

1. Empty the solution and recovery tanks.

2. Turn the machine off and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

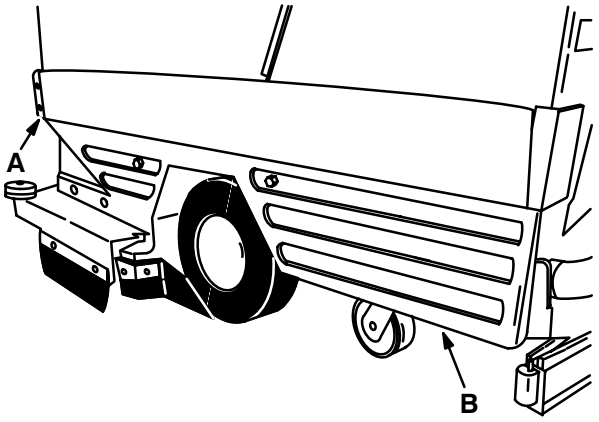
3. Block the tires, which are not being jacked up, in order to secure the machine position.

FOR SAFETY: When Servicing Machine, Block Machine Tires Before Jacking Machine Up.

4. Use a jack of adequate capacity to raise the machine. Jack up the machine only at the designated locations.

FOR SAFETY: When Servicing Machine, Jack Machine Up At Designated Locations Only. Block Machine Up With Jack Stands. Use Hoist Or Jack Of Adequate Capacity To Lift Machine.

JACKING LOCATIONS



A. Front Jacking Location
B. Rear Jacking Location

5. Block machine up with jack stands or similar devices next to the designated jacking locations to secure the machine.

6. Lower the machine onto the jack stands.

7. Check to make sure the machine is secure.

8. Service the machine as required.

9. When finished servicing the machine, raise the machine off the jack stands.

10. Remove the jack stands from under the machine.

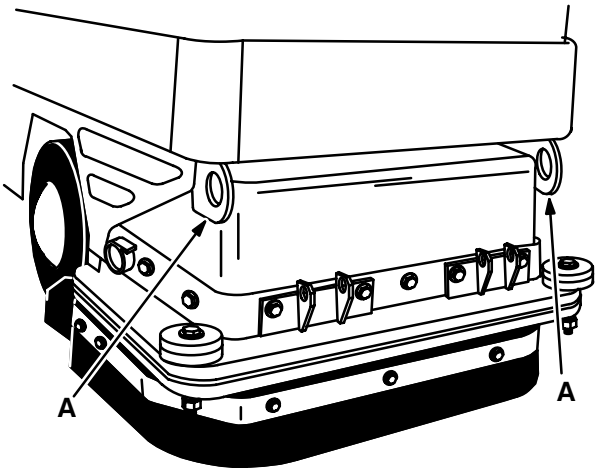
11. Lower the machine.

12. Remove the blocks from the tires.

MACHINE TIE–DOWNS

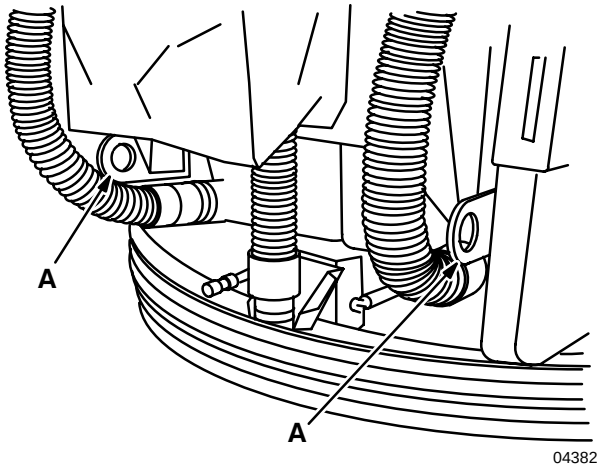
The machine may be tied down at each corner of the main frame using the tie-down brackets supplied in the tie-down kit.

FRONT TIE–DOWN LOCATION



A. Tie–Down Bracket

REAR TIE–DOWN LOCATION



A. Tie–Down Bracket

When transporting the machine on a trailer or in a truck, be sure to set the machine parking brake, if equipped, and block the machine tires to prevent the machine from rolling.

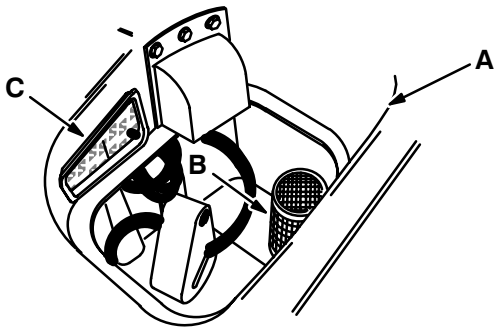
MACHINE STORAGE

STORING MACHINE

When storing the machine for extended periods of time, the following procedures must be followed to lessen the chance of rust, sludge, or other undesirable deposits from forming.

1. Drain and clean the solution and recovery tanks.
2. Remove and empty Pre-Sweep™ assembly.
3. Raise the scrub brushes.
4. Park the machine in a cool, dry area.
5. Remove the batteries or charge the batteries after every three months.

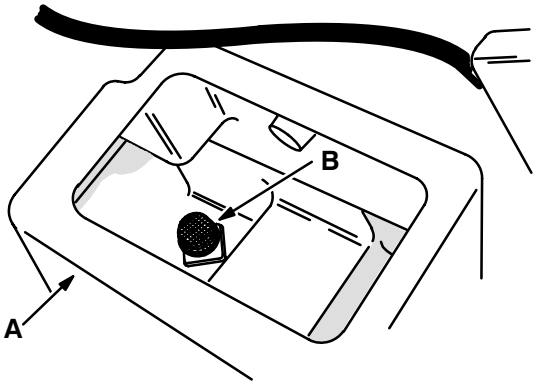
ES™ RECOVERY TANK OUTLET FILTER



04350

A. Recovery Tank
B. ES™ Outlet Filter
C. Fan Inlet Screen

SOLUTION TANK OUTLET FILTER



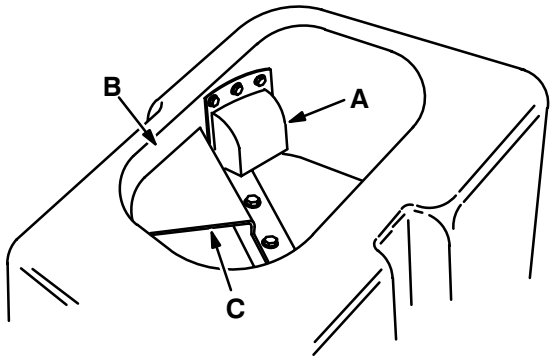
04355

A. Solution Tank
B. Solution Tank Outlet Filter

Pre-Sweep™ equipped machines: Remove and clean out the debris hopper. Replace the hopper into the Pre-Sweep™ assembly.

10. Place the duct assembly in the recovery tank opening. Replace the recovery tank lid.

VACUUM FAN DUCT ASSEMBLY



04377

A. Vacuum Outlet Deflector
B. Recovery Tank Opening
C. Duct Assembly

SECTION 3

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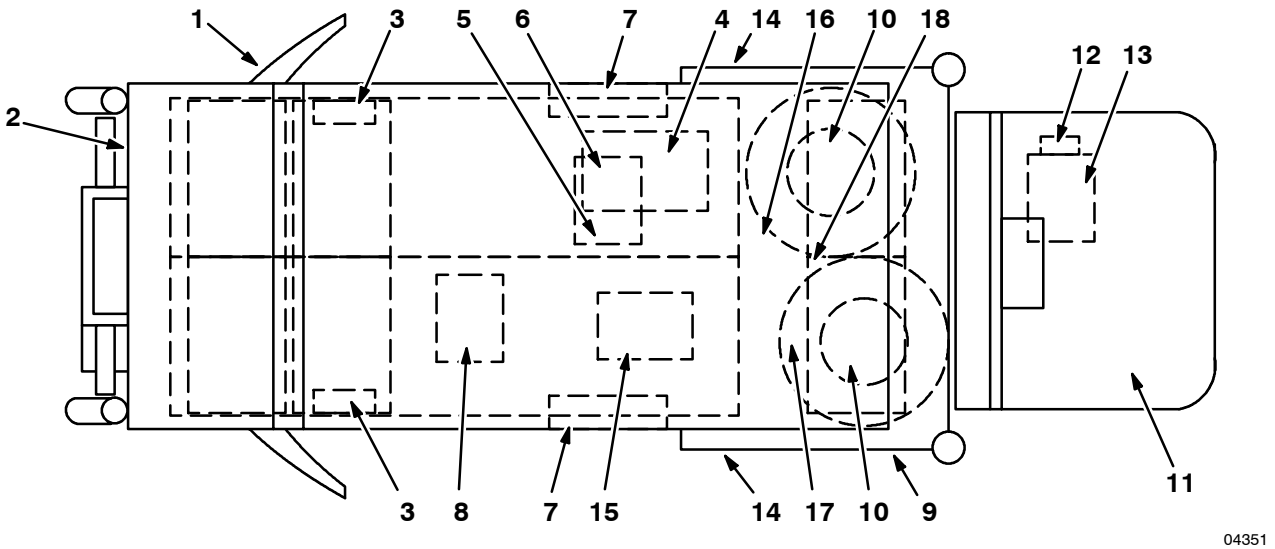
RECOMMENDED FIRST 50-HOUR MACHINE INSPECTION

After the first 50 hours of operation, the following procedures are recommended:

1. Check the squeegee deflection.
2. Check the specific gravity of the batteries.
3. Check the battery cable connections.
4. Check the scrub head side skirts adjustment.
5. Check the tire pressure in the drive wheel tires.

MAINTENANCE CHART



04351

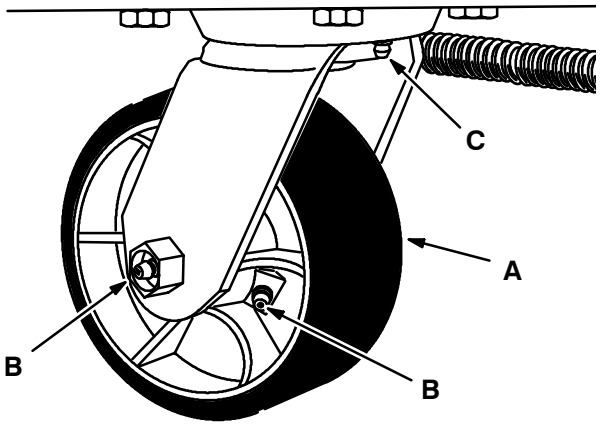
Interval	Key	Description	Procedure	Lubricant	No. of Service Points
Daily	1	Squeegee	Check for damage and wear	–	1
	10	Scrub brushes	Check for damage and wear	–	2
	4	Recovery tank	Clean Back flush squeegee suction hose	–	1
	15	ES™ Solution Tank	Clean and flush	–	1
	11	Pre-Sweep™ brush	Check for damage and wear	–	1
25 Hours	9	Scrub head floor skirts	Check for damage and wear	–	3
	1	Squeegee	Check deflection	–	1
	7	Front tires	Check air pressure	–	2
	11	Pre-Sweep™	Check skirts and seals for damage and wear	–	6
80 Hours	14	Scrub head side skirts	Check for adjustment	–	2
	12	Pre-Sweep™ brush drive belt	Check tension	–	1
	11	Pre-Sweep™ side skirts	Check floor clearance	–	2
100 Hours	3	Rear casters	Lubricate	SPL	2
	2	Parking brake	Check adjustment	–	1
	5	Wheel drive chain	Lubricate	SPL	1
160 Hours	8	Vacuum fan motor (465/480)	Check motor brushes	–	1
	16	Vacuum fan motor (490)	Check motor brushes	–	1
	17	Vacuum fan drive motor (480EE)	Check motor brushes	–	1
	10	Scrub brush motors	Check motor brushes	–	2
	6	Propelling motor	Check motor brushes	–	1
	13	Pre-Sweep™ brush motor	Check motor brushes	–	1
	18	Vacuum fan drive belt (480EE)	Check for damage and wear	–	1

SPL – Special lubricant, Lubriplate EMB grease (TENNANT part no. 01433–1)
NOTE: More frequent intervals may be required in extremely dusty applications.

LUBRICATION

REAR CASTERS

The two rear casters support the weight of the rear of the machine. Grease fittings have been provided for lubrication purposes. They are located on the swivel and on the wheel. Lubricate the swivel and wheel with a grease gun containing Lubriplate EMB grease (TENNANT part no. 01433–1) after every 100 hours of operation.

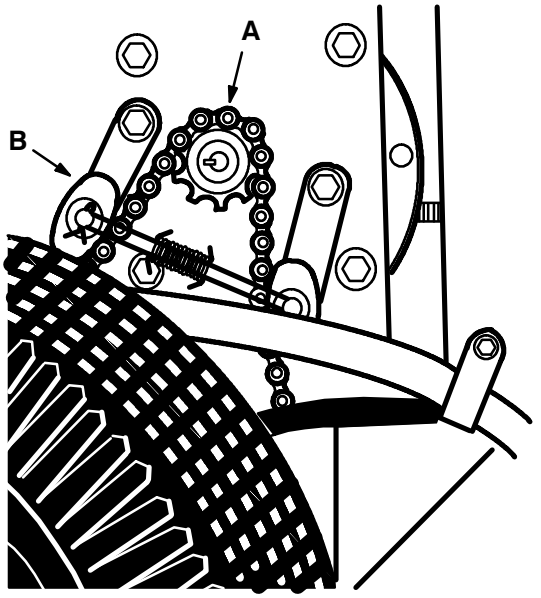


REAR CASTER

A. Caster
B. Wheel Grease Fitting
C. Swivel Grease Fitting

WHEEL DRIVE CHAIN

The wheel drive chain transfers power from the propelling motor to the differential. Lubricate the chain by brushing Lubriplate EMB grease (TENNANT part no. 01433–1) on the chains after every 100 hours of operation.



WHEEL DRIVE CHAIN

A. Chain
B. Chain Tensioner

ELECTRICAL SYSTEM

BATTERIES

The six 6-Volt batteries provide all of the energy used by the machine. The batteries are rated at 220 A/h at a 20-hour rate. The heavy duty batteries are available as an option on the 480 and 490. They are rated at 305 A/h at a 20 hour rate. The batteries require regular maintenance to keep them operating their best.

Periodically clean the top surface and the terminals and check for loose connections. Use a strong solution of baking soda and water. Brush the solution sparingly over the battery top, terminals, and cable clamps. Do not allow any baking soda solution to enter the battery. Use a wire brush to clean the terminal posts and the cable connectors. After cleaning, apply a coating of clear petroleum jelly to the terminals and the cable connectors. Keep the tops of the batteries clean and dry.

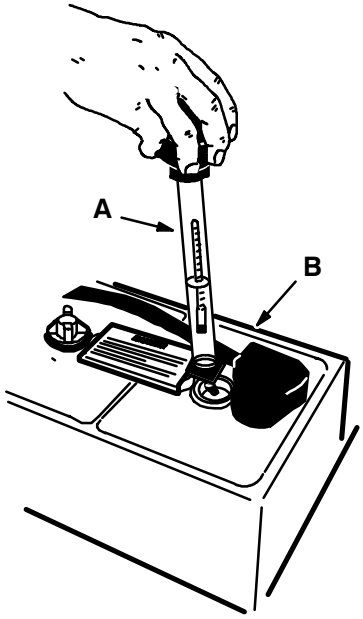
Check the electrolyte level in each battery cell before and after charging the batteries. Never add acid to batteries, only distilled water. Do not overfill. Keep vent plugs firmly in place at all times, except when adding water or taking hydrometer readings.

FOR SAFETY: When Servicing Machine, Avoid Contact With Battery Acid.

Do not operate machine if batteries are in poor condition or have a charge level below 25%, specific gravity below 1.155. Do not allow batteries to remain in discharged condition for any length of time.

Keep all metallic objects off the top of the batteries, as they may cause a short circuit. Replace worn or damaged wires.

The machine batteries are unique in that they hold their power for long periods of time, but they can only be recharged a certain number of times. To get the most life from the batteries, charge them when their charge level is below 25%. To determine the charge level, check the batteries specific gravity with a hydrometer.



04380

CHECKING BATTERY SPECIFIC GRAVITY

A. Hydrometer
B. Battery

If one or more battery cells tests lower than the other battery cells, (0.050 or more) the cell is damaged, shorted, or is about to fail.

NOTE: Do not take readings immediately after adding water--if the water and acid are not thoroughly mixed, the readings may not be accurate. Check the hydrometer readings against the following chart:

SPECIFIC GRAVITY at 80° F (27° C)	BATTERY CONDITION
1.265	100% charged
1.225	75% charged
1.190	50% charged
1.155	25% charged
1.120	Discharged

NOTE: If the readings are taken when the battery electrolyte is any temperature other than 80° F (27° C), the reading must be temperature corrected.

To determine the corrected specific gravity reading when the temperature of the battery electrolyte is other than 80° F (27° C):

Add to the specific gravity reading 0.004, 4 points, for each 10° F (6° C) above 80° F (27° C).

Subtract from the specific gravity reading 0.004, 4 points, for each 10° F (6° C) below 80° F (27° C).

Eight to twelve hours is generally enough time to charge a discharged set of batteries. If the batteries are not fully discharged, charge for a period of time that is proportionally less than what is required for a fully discharged set of batteries, ie: half discharged batteries need four to six hours of charging time.

Do not expose the battery charger to water. Do not touch uninsulated battery terminals or unnecessarily expose any portion of your body to the batteries when making electrical connections.

TO CHARGE BATTERIES

1. Stop the machine on a flat, dry surface next to the charger and engage the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

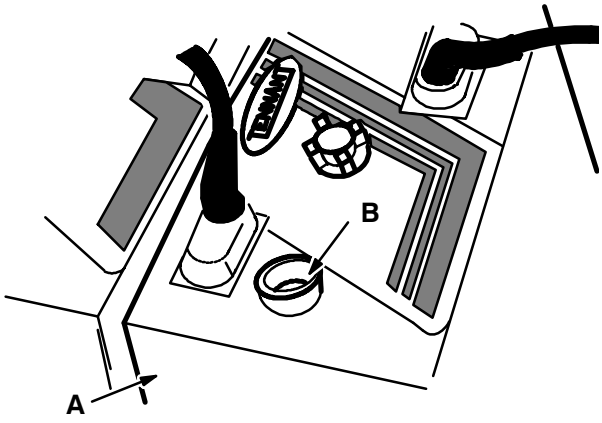
2. Turn the key-operated on-off switch counter-clockwise to stop the machine.

3. Lift open the machine hood, and tilt open the rear cover.

WARNING: Batteries Emit Hydrogen Gas. Explosion Or Fire Can Result. Keep Sparks And Open Flame Away. Keep Covers Open When Charging.

4. Check the electrolyte level in the batteries.

   Before charging, add just enough distilled water to cover the plates. Then, after charging is completed, add enough water to bring the level up to the indicator ring. If the water level is topped off before charging, normal expansion of the electrolyte may cause an overflow, resulting in loss of acid balance and damage to the machine.



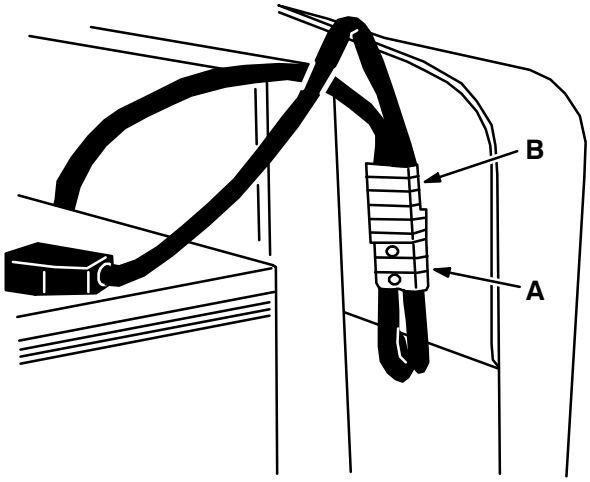
00879

ELECTROLYTE INDICATOR RING

A. Battery
B. Indicator Ring

5. Replace battery caps and leave them in place while charging.

6. Unplug the machine connector from the battery connector.



04343

CONNECTING BATTERY CONNECTORS

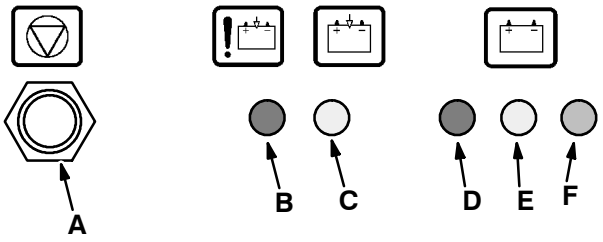
A. Machine Connector
B. Battery Connector

7. Non-Smart Chargers: Plug the charger connector into the battery connector. The charger will start automatically in three to five seconds.The charger will turn off when the batteries are fully charged.

   Smart Chargers: Plug the charger connector into the battery connector. The charger will go through a self diagnostic check. All the indicator lamps on the charger panel will flash showing the diagnostic check is in progress.

NOTE: If the red no charge indicator lamp *lights when the charger is plugged into a wall outlet, the charger can not charge the battery, meaning there is something wrong with the battery.*

   When the lamps stop flashing, the *red incomplete battery status indicator lamp* lights. After a short delay, the *yellow charger on indicator lamp* lights showing the charger has turned on.



06898

CHARGER PANEL

A. Interrupt Switch
B. Red No Charge Indicator Lamp
C. Yellow Charger On Indicator Lamp
D. Red Incomplete Battery Status Indicator Lamp
E. Yellow 80% Charge Indicator Lamp
F. Green Complete Charge Indicator Lamp

As the battery charges, the *red incomplete battery status indicator lamp* goes out and the *yellow 80% charge indicator lamp* lights.

Finally the *yellow 80% charge indicator lamp* goes out and the green complete charge indicator lamp lights showing the battery is completely charged. After a short time, the *yellow charger on indicator lamp* goes out showing the charger has turned off.

The *green complete charge indicator lamp* will remain on until the charger is unplugged from the wall outlet.

NOTE: If the charge cycle has to be stopped, press the interrupt switch ***<u>while</u>*** *unplugging the charger from the wall outlet.*

8. After the charger is off, or after turning the charger off, unplug the charger connector from the battery connector.

NOTE: Make sure the battery charger is off before unplugging the charger connector from the battery connector

9. Reconnect the machine connector to the battery connector.

10. Check the electrolyte level of the batteries; it should be up to the indicator ring.

11. Tilt the rear cover back and close the machine hood.

ELECTRIC MOTORS

The electric motors are repairable. There are five electric motors on the machine – one propelling motor, two scrub brush motors, one vacuum fan motor, and one Pre-Sweep™ brush motor.

Blow out the dust and inspect the motor brushes in the motors after every 160 hours of operation.

If the brushes have been worn to less than 0.38 in (10 mm) in length, replace them.

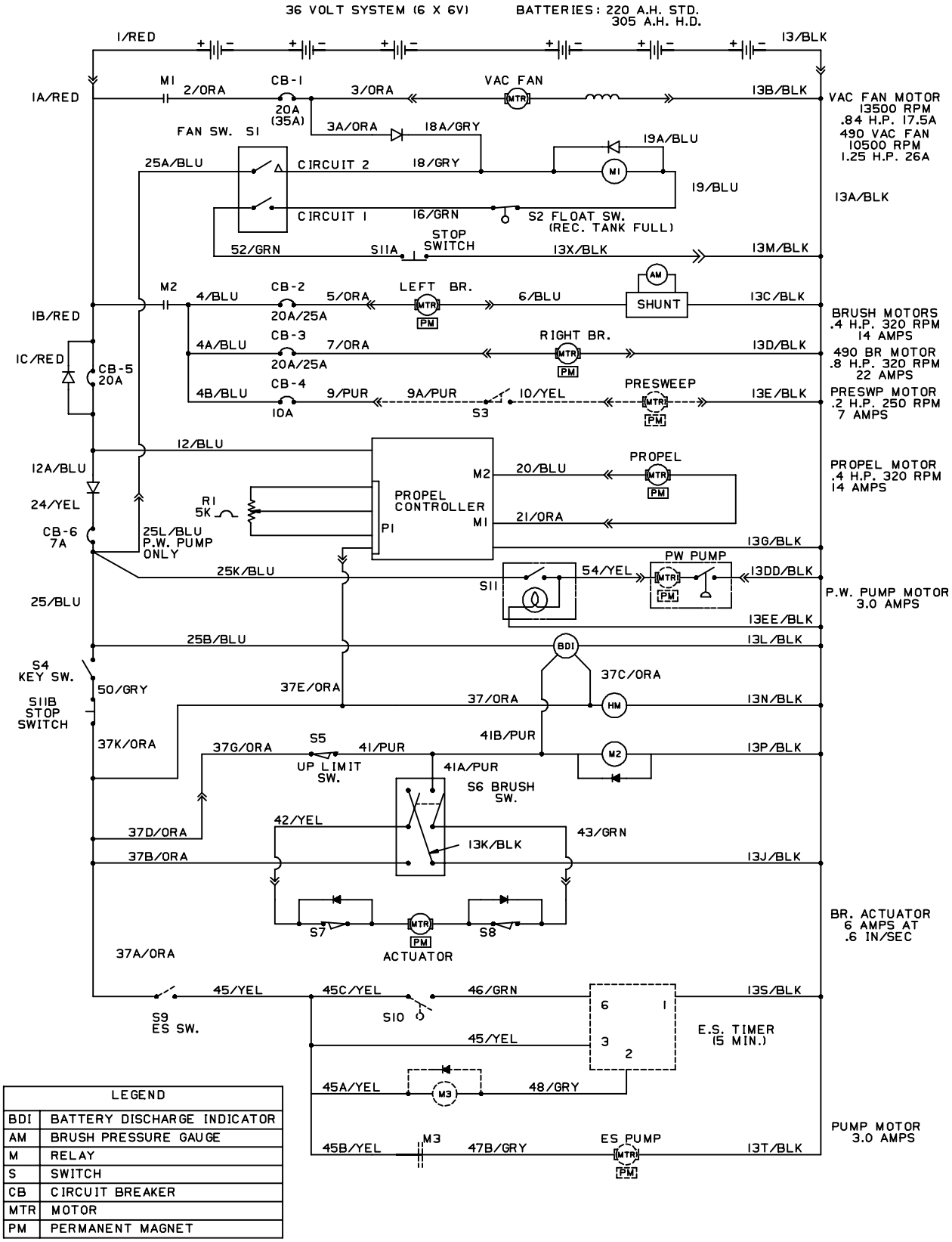
If the commutator is worn or rough, the motor armature should be removed and serviced.

PROPELLING CIRCUIT

The propelling circuit controls the forward and reverse speed of the machine. The circuit is not user serviceable – only trained personnel should be allowed to work on it. Do not steam clean or spray the panel with water as it may damage the electrical system.

WARNING: Hazardous Voltage. Shock Can Result. Disconnect Batteries Before Working On Machine. Only Qualified Personnel Should Work Inside Panel.

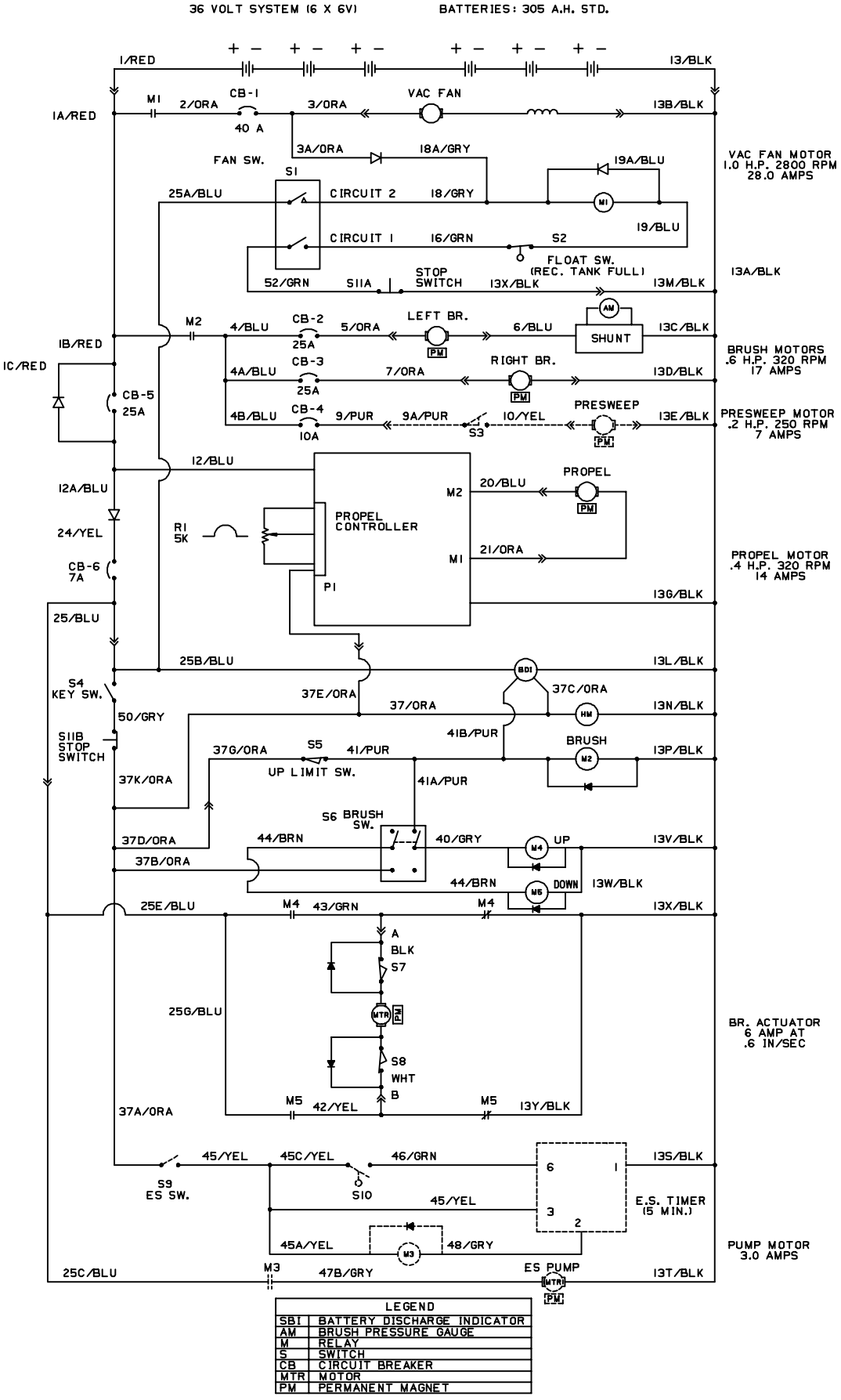
NOTE: A static discharge grounding strap should be used when servicing the electronic circuitry.



LEGEND	
BDI	BATTERY DISCHARGE INDICATOR
AM	BRUSH PRESSURE GAUGE
M	RELAY
S	SWITCH
CB	CIRCUIT BREAKER
MTR	MOTOR
PM	PERMANENT MAGNET

05096

ELECTRICAL SCHEMATIC (465/480/490)



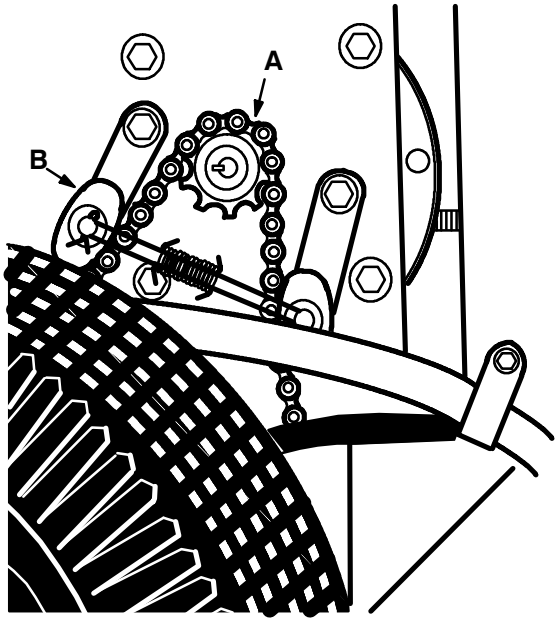
06341

ELECTRICAL SCHEMATIC (480EE)

BELTS AND CHAINS

WHEEL DRIVE CHAIN

The wheel drive chain transfers power from the propelling motor to the differential on standard machines. It has an automatic tensioner and requires no regular adjustment.



04353

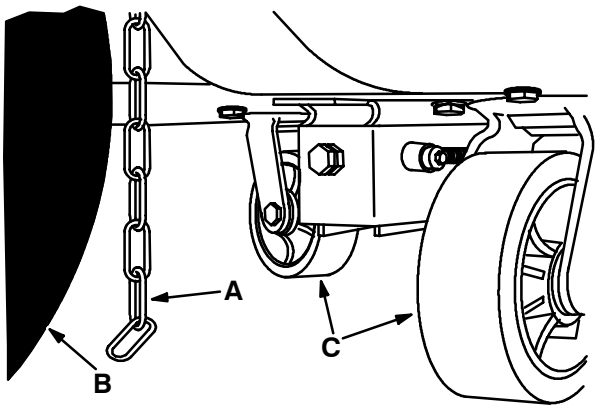
WHEEL DRIVE CHAIN

A. Chain
B. Chain Tensioner

STATIC DRAG CHAIN

The static drag chain prevents the buildup of static electricity in the machine. It is attached to the main frame.

Make sure that the chain is making contact with the floor at all times.



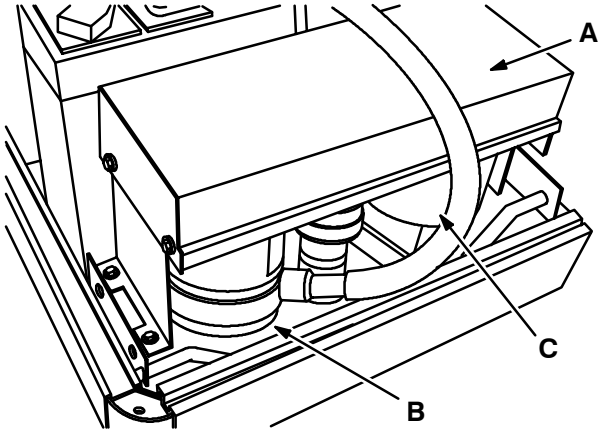
04388

STATIC DRAG CHAIN

A. Static Drag Chain
B. Front Tire
C. Rear Caster

VACUUM FAN DRIVE BELT (480EE)

The vacuum fan drive belt drives the vacuum fan on a model 480EE machine. It is located under the vacuum fan belt cover in the front of the machine. Check the belt for damage and wear after every 160 hours of operation.



06342

VACUUM FAN DRIVE BELT

A. Vacuum fan belt cover
B. Vacuum fan drive motor
C. Vacuum fan

SCRUB HEAD

SCRUB HEAD

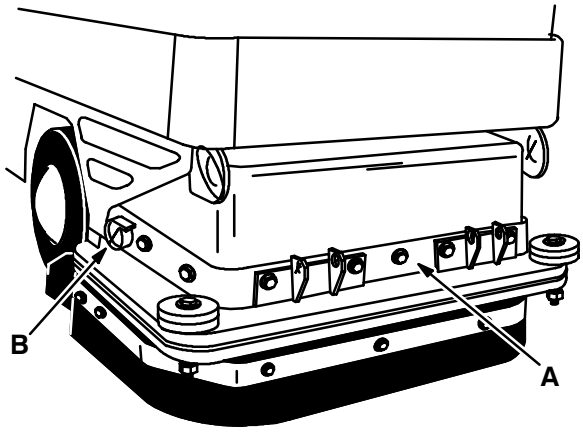
The scrub head houses the two scrub brushes, and their drive and lift mechanisms. The scrub head has one adjustment – scrub head leveling. It is factory adjusted and should not be changed unless scrub head parts are damaged or are replaced. If the scrub head is not level, the brushes will apply uneven pressure and may bounce. It also would cause excessive wear on the brush drive plugs and bearings.

TO LEVEL SCRUB HEAD

1. Stop the machine on a smooth, level floor.
2. Lower the scrub brushes.
3. Turn the machine off and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

4. Remove the scrub head cover by pressing on the release levers on both sides of the scrub head cover and pulling forward.

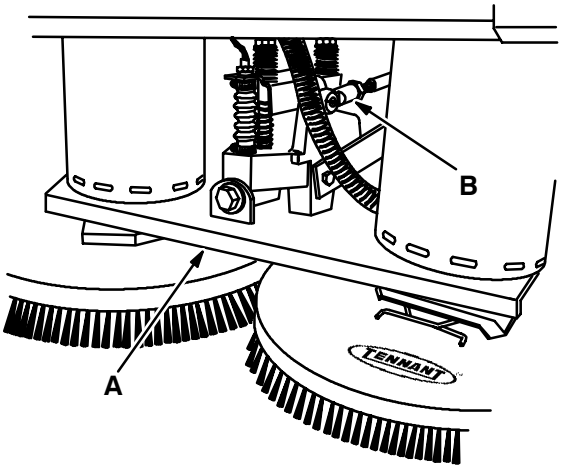


04366

SCRUB HEAD COVER RELEASE

A. Scrub Head Cover
B. Release Lever

5. Position a level on the scrub head from front to rear.
6. Adjust the support link ball joints so the head is level front to rear. Tighten the ball joint jam nuts after making adjustments.



04368

LEVELING SCRUB HEAD

A. Scrub Head
B. Support Link

7. Start the machine.
8. Raise the scrub brushes.
9. Lower the scrub brushes.
10. Turn machine off.
11. Recheck the front to back level of the scrub head. Readjust if necessary.
12. Replace the scrub head cover.

SCRUB BRUSHES

Two disc-type scrub brushes scrub the floor. Each scrub brush is driven by its own electric motor through a floating drive assembly. Part of each floating drive assembly is a spring lock clip which holds the scrub brushes.

There are many variations of brushes and cleaning pads to choose from. There is a brush or cleaning pad available for almost any application. Scrub brushes are ready for use when they are equipped with a brush drive plate and spring clip.

Scrub brushes should be checked daily for tangled wire or string wear damage. Scrub brushes should be replaced if large portions of the brush bristles are missing or if the remaining brush bristle length is less than 0.50 to 0.25 in (15 to 5 mm).

NOTE: Be sure to replace brushes in sets. Otherwise one scrub brush will be more aggressive than the other.

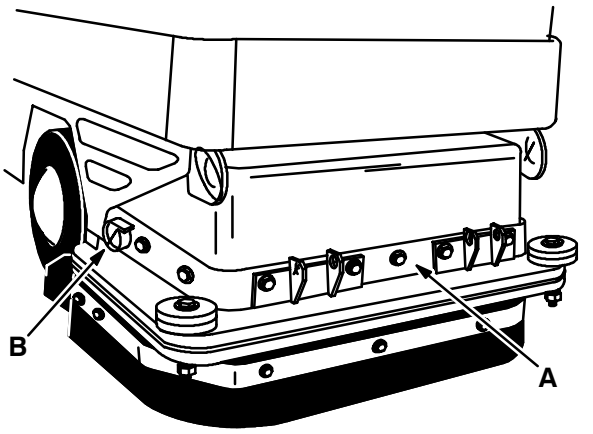
TO REPLACE SCRUB BRUSHES

1. Raise the scrub brushes.

2. Turn machine off and set the parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

3. Remove the scrub head cover by pressing on the release levers on both sides of the scrub head cover and pulling forward.



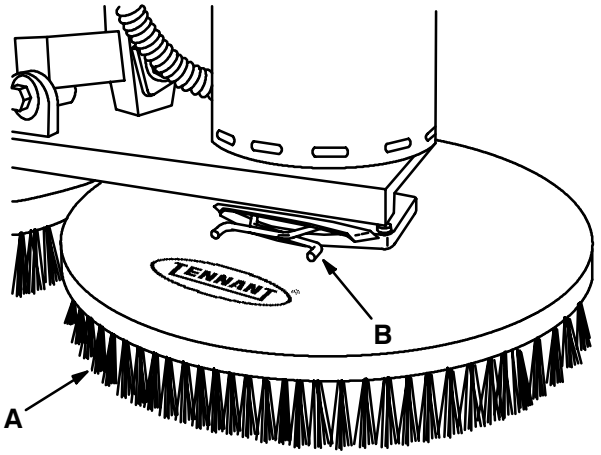
04366

SCRUB HEAD COVER RELEASE

A. Scrub Head Cover
B. Release Lever

4. Rotate each of the scrub brushes until you can see their spring clips.

5. Press the spring clips together with your thumb and index finger; press the brush down to remove it.



04367

REMOVING SCRUB BRUSH

A. Scrub Brush
B. Brush Spring Clip

6. Slide the new scrub brushes under the scrub brush drive assemblies.

7. Line up the scrub brush drive socket with the drive plug.

8. Press the brush spring clip together and lift the scrub brush into the drive plug. Release the spring clip when the brush is in place.

9. Repeat for the other brush.

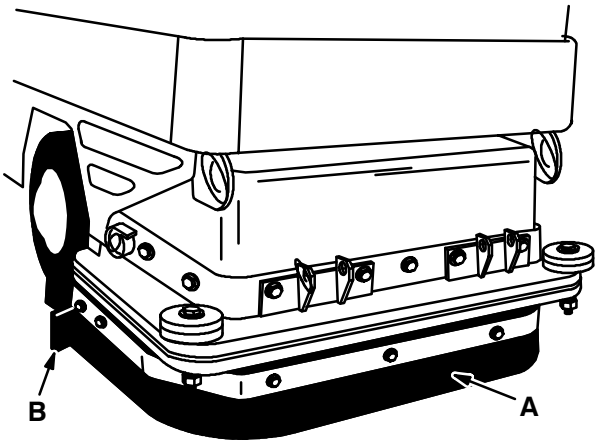
10. Check the front to back level of the scrub head. Adjust if necessary as described in *TO LEVEL SCRUB HEAD*.

11. Replace the scrub head cover.

SCRUB HEAD FLOOR SKIRTS

The scrub head floor skirts control water spray from the brushes. The scrub head side skirts are located just in front of the front wheels. The scrub head cover skirt is located in front of the scrub head. Check these skirts for wear or damage after every 25 hours of operation.

The side skirts should touch the floor when adjusted properly. The scrub head cover skirt should touch the floor when the scrub head is down. Check the floor skirt for adjustment after every 80 hours of operation.



04366

SCRUB HEAD FLOOR SKIRTS

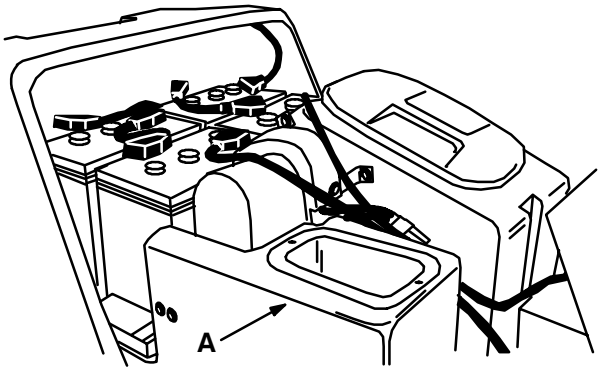
A. Scrub Head Cover Skirt
B. Scrub Head Side Skirt

SOLUTION AND RECOVERY TANKS

SOLUTION TANK

The solution tank supplies the scrub brushes with a water and detergent solution. It is the tank located on the right side of the machine.

To get to the solution tank, open the machine hood.

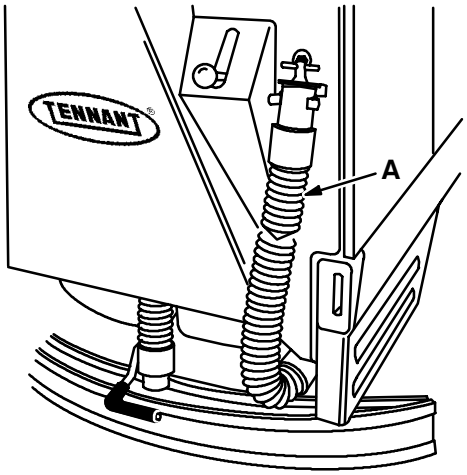


04378

SOLUTION TANK

A. Solution Tank

The solution tank requires no regular maintenance. If detergent cakes on the bottom of the tank, remove the deposits with a strong blast of warm water. Do not use water hotter than 130° F (54° C) or use steam to clean the tank as it will damage it. A tank drain hose has been provided to allow the tank to be drained for cleaning and storage.



04356

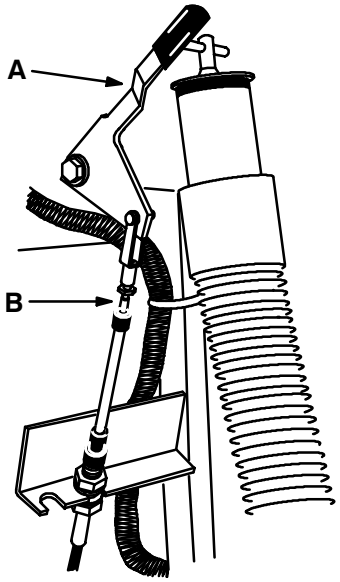
SOLUTION TANK DRAIN

A. Drain Hose

SOLUTION VALVE

The solution valve controls the flow of solution to the scrub brushes. The valve cable should provide the valve with fully open, partially open and fully closed positions.

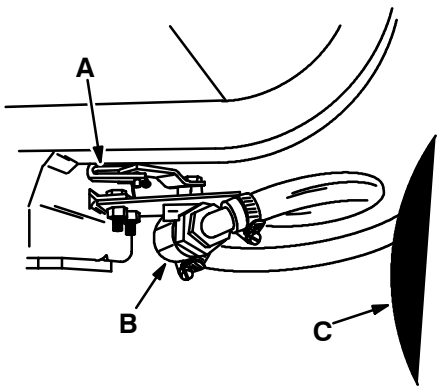
The solution control cable can be adjusted at the solution lever or valve ends of the cable. To adjust the cable at the solution lever end, remove the rear cover panel of the machine. To adjust the cable at the solution valve end of the cable, remove the right lower panel of the machine to gain access to the solution valve.



04357

SOLUTION LEVER

A. Solution Lever
B. Solution Control Cable



04395

SOLUTION VALVE

A. Solution Cable
B. Solution Valve
C. Front Tire

RECOVERY TANK

The recovery tank stores the water solution picked up by the machine squeegee and vacuum fan. The recovery tank is located on the left side of the machine.

The recovery tank should be drained and cleaned after the solution tank is empty and whenever the float stops the vacuum fan.

TO DRAIN AND CLEAN RECOVERY TANK

1. Move the solution lever all the way down to stop solution flow.

   ES™ machines: Place the ES™ switch in the bottom position to stop the ES™ pump.

2. Raise the scrub brushes.

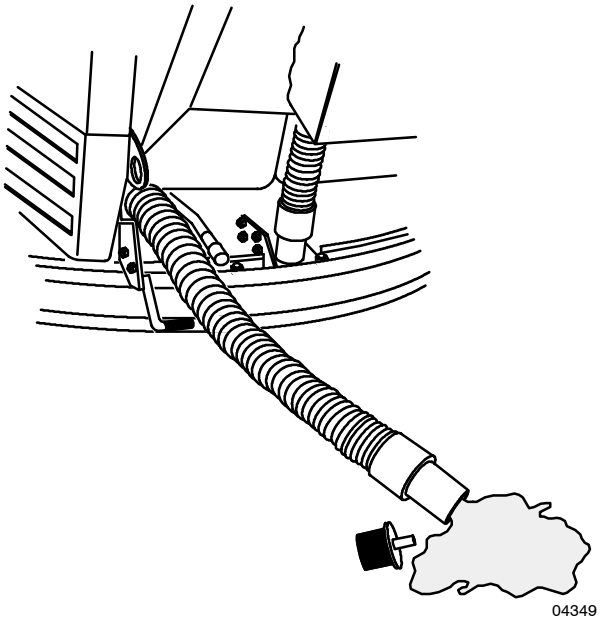
3. Stop the vacuum.

4. Stop the machine next to a floor drain.

5. Turn off the machine and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

6. Remove and unplug the recovery tank drain hose into a floor drain.



04349

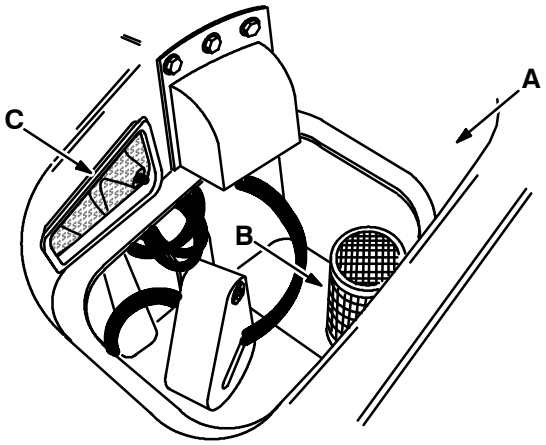
DRAINING RECOVERY TANK

7. Open the machine hood.

8. Remove the recovery tank cover and duct assembly.

9. Spray the inside of the recovery tank with clean water. Remove and clean the fan inlet screen, then place it back into the recovery tank. If the screen is not replaced, damage to the vacuum fan motor could take place. Do not use water hotter than 130° F (54° C) or use steam to clean the tank as it will damage it.

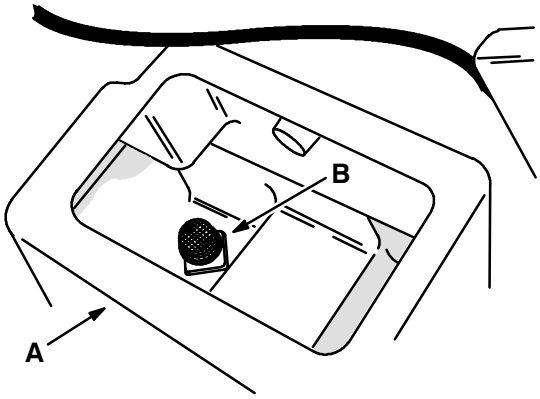
   ES™ machines: Flush the ES™ outlet filter and the solution tank outlet filter with water. Then add enough water to cover the recovery tank ES™ outlet filter and operate the ES™ pump to flush the system.



04350

ES™ RECOVERY TANK OUTLET FILTER

A. Recovery Tank
B. ES™ Outlet Filter
C. Fan Inlet Screen

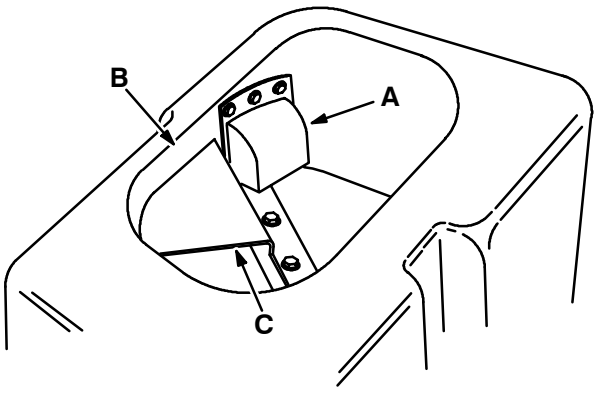


04355

SOLUTION TANK OUTLET FILTER

A. Solution Tank
B. Solution Tank Outlet Filter

10. Place the duct assembly in the recovery tank opening. Replace the recovery tank lid.

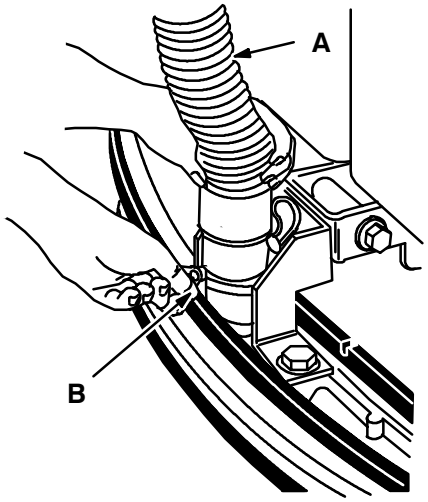


04377

VACUUM FAN DUCT ASSEMBLY

A. Vacuum Outlet Deflector
B. Recovery Tank Opening
C. Duct Assembly

11. Remove the squeegee suction hose



04373

REMOVING SQUEEGEE SUCTION HOSE

A. Squeegee Hose
B. Clamp

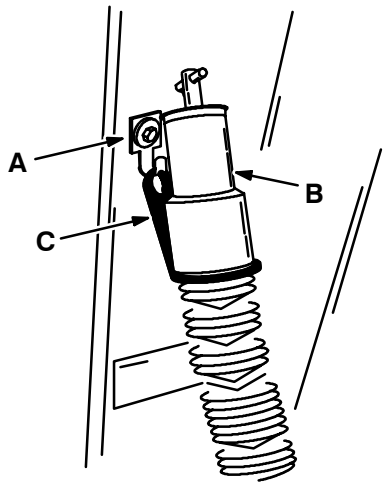
12. Push a garden hose into the end of the squeegee suction hose. Turn on the vacuum. Turn on the garden hose.

13. Work the garden hose up the squeegee suction hose to flush away any debris.

14. Turn off the garden hose and vacuum. Remove the garden hose from the suction hose and push the suction hose back onto the squeegee frame. Tighten the hose clamp around the suction hose.

15. Close machine hood.

16. Plug and secure the drain hose in its storage clip.



04358

SECURED DRAIN HOSE

A. Storage Clip
B. Drain Hose
C. Hose Strap

SQUEEGEES

REAR SQUEEGEE

The rear squeegee assembly channels water into the vacuum fan suction. It has two squeegee blades. The front squeegee blade channels the water, and the rear blade wipes the floor.

The squeegee assembly can be removed easily for loading and unloading on trailers or to allow the machine to pass through narrow doorways or passageways.

Check the rear squeegee assembly for damage, wear, and adjustment daily. Rotate or replace either squeegee blade if its leading edge is torn or worn half-way through the thickness of the blade.

The front squeegee blade has two wiping edges for scrubbing smooth floors (the edge with multiple slits), and two wiping edges for scrubbing grouted tile floors (the edge with one slit). To use the wiping edges, start with one wiping edge, then rotate the squeegee end-for-end to use the other wiping edge.

The rear squeegee blade has four wiping edges. To use them all, start with one wiping edge. To use the next wiping edge, rotate the squeegee end-for-end. To use the next wiping edge, rotate the top edges down, bottom edges up. To use the last wiping edge, rotate the squeegee end-for-end.

The squeegee assembly can be adjusted for leveling and deflection. Level the squeegee to assure even contact with the surface to be scrubbed, and deflection for the amount of curl the squeegee has when in contact with the scrubbing surface.

The level and deflection of the squeegee should be checked every 25 hours of operation, or when scrubbing a different type of surface.

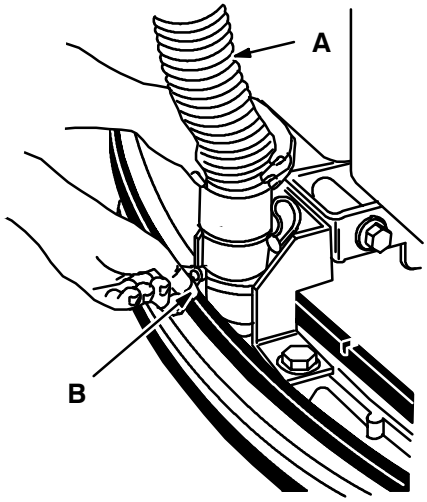
TO REMOVE SQUEEGEE ASSEMBLY

1. Raise the rear squeegee.

2. Turn off the machine and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

3. Loosen the squeegee hose clamp.



04373

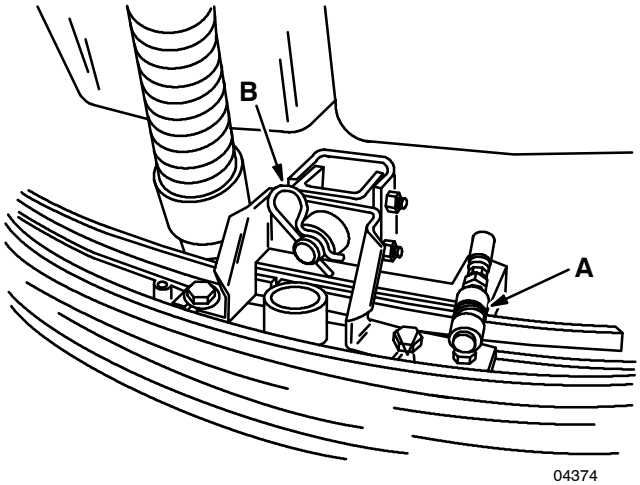
LOOSENING HOSE CLAMP

A. Squeegee Hose
B. Clamp

4. Pull the squeegee suction hose off the squeegee frame.

5. Disconnect the stabilizing link by pulling the ball joint sleeve back and up.

6. Pull the retaining pin out of the squeegee pivot.



04374

SQUEEGEE PIVOT

A. Stabilizing Link
B. Retaining Pin

7. Slide the squeegee assembly off the squeegee pivot.

TO INSTALL SQUEEGEE ASSEMBLY

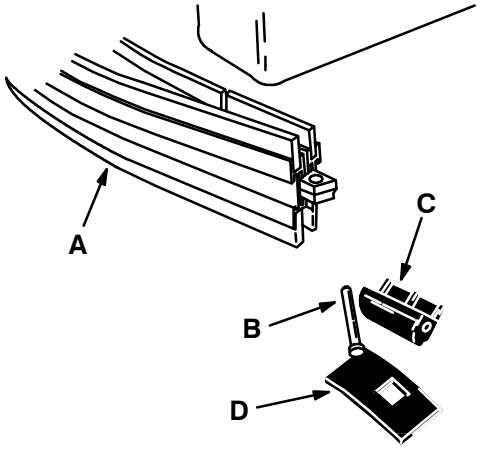
1. Slide the squeegee assembly onto the squeegee pivot.
2. Press the retaining pin through the squeegee pivot.
3. Reconnect the stabilizing link by pulling the ball joint sleeve and pushing it onto the ball joint stud on the squeegee assembly.
4. Push the squeegee suction hose onto the squeegee frame.
5. Tighten the squeegee hose clamp.

TO REPLACE OR ROTATE BLADE

1. Raise the squeegee.
2. Turn off the machine and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

3. Remove the pin, deflector, and gasket from the end of the squeegee.



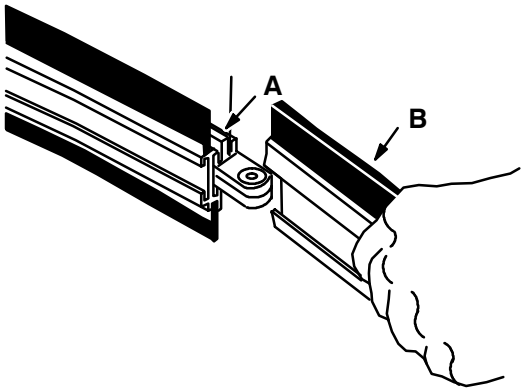
04369

SQUEEGEE

A. Squeegee
B. Pin
C. Deflector
D. Gasket

4. Pull the squeegee blade off the squeegee frame.
5. Replace or rotate the squeegee to allow a new edge to face the front of the machine.
6. Slide the squeegee blade onto the squeegee frame.

NOTE: Lubricating the squeegee frame where the squeegee makes contact will make for easier squeegee installation.

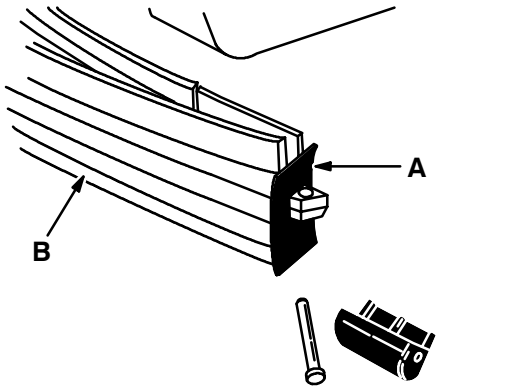


04370

REPLACING SQUEEGEE BLADE

A. Squeegee Frame
B. Squeegee Blade

7. Place the squeegee gasket on the end of the squeegee frame with the long end down and back.



04371

SQUEEGEE GASKET

A. Gasket
B. Squeegee

8. Replace squeegee deflector and pin.
9. Adjust the rear squeegee as described in *TO LEVEL REAR SQUEEGEE* and *TO ADJUST SQUEEGEE DEFLECTION*.

TO LEVEL REAR SQUEEGEE (for 465 with serial number below 010216, or 480 with serial number below 020294)

1. Lower the rear squeegee and move the machine forward.

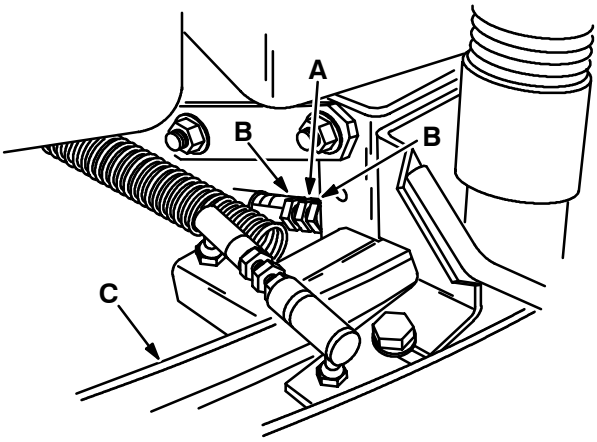
2. Turn off the machine and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

3. Observe the level of the squeegee for an even curl along the length of the blade.

4. Raise the squeegee.

5. Loosen the turnbuckle jam nuts.



04389

SQUEEGEE LEVEL ADJUSTMENT

A. Turnbuckle
B. Turnbuckle Jam Nut
C. Rear Squeegee

6. Adjust the turnbuckle to increase or decrease the curl at the ends of the squeegee assembly.

7. Turn on the machine and lower the squeegee. Move the machine forward and observe the level of the squeegee. Readjust if necessary until an even curl is achieved along the length of squeegee.

8. Turn the machine off and raise the squeegee. Tighten the turnbuckle jam nuts.

TO LEVEL REAR SQUEEGEE (for 465 serial number 010216 and above, 480 serial number 020294 and above, and 490 machines)

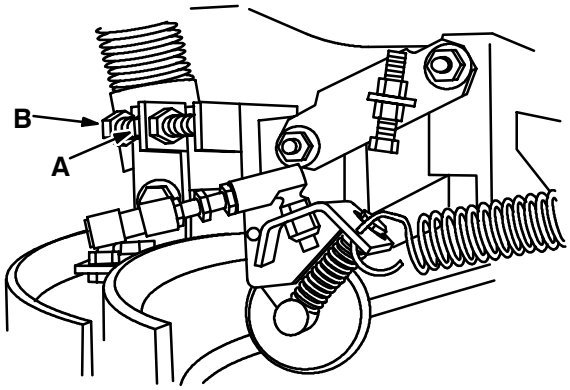
1. Lower the rear squeegee and move the machine forward.

2. Turn off the machine and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

3. Observe the level of the squeegee for an even curl along the length of the blade.

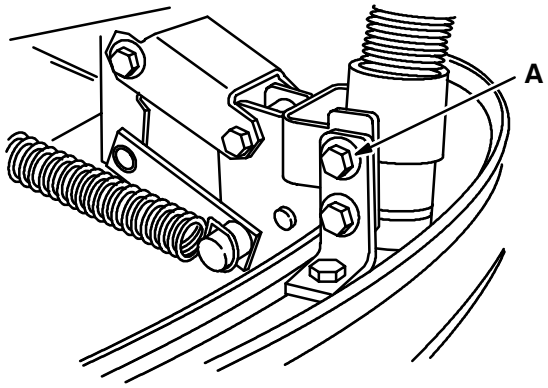
4. Loosen the jam nut on the adjustment screw. Loosen the pivot screw.



05490

LEVEL ADJUSTMENT SCREW

A. Jam Nut
B. Adjustment Screw



05491

PIVOT SCREW

A. Pivot Screw

5. Turn the adjustment screw counter-clockwise to increase the curl at the tips of the squeegee assembly. Turn the adjustment screw clockwise to decrease the curl at the ends of the squeegee assembly.

6. Turn on the machine, release the parking brake (if equipped), and move the machine forward to observe the curl along the length of the squeegee. Readjust the tip curl if necessary.

7. Tighten the jam nut on the adjustment screw and tighten the pivot screw.

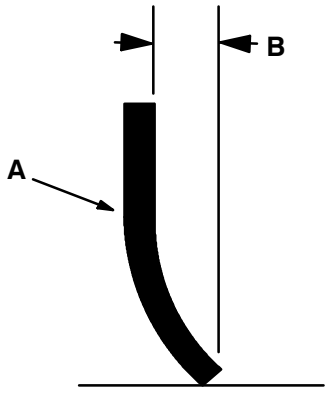
TO ADJUST SQUEEGEE DEFLECTION (for 465 with serial number below 010216, or 480 with serial number below 020294)

1. Lower the rear squeegee and move the machine forward.

2. Turn off the machine and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

3. Observe the amount of squeegee deflection. It should deflect 0.50 in (13 mm) across its entire width for smooth floors and 0.62 in (15 mm) for rough floors.



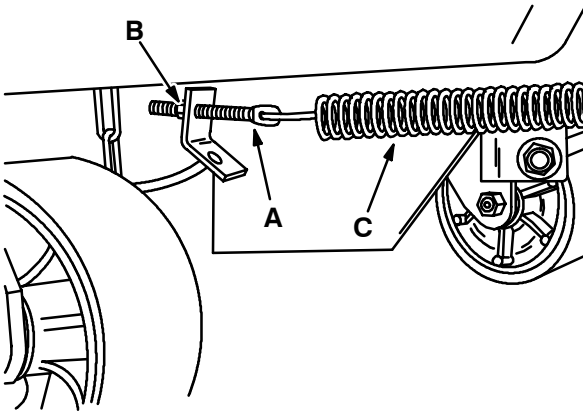
03719

SQUEEGEE DEFLECTION

A. Squeegee
B. Deflection

4. Raise the squeegee.

5. To increase the squeegee deflection, turn the nut on the eye bolt clockwise.



04390

DEFLECTION ADJUSTMENT

A. Eye Bolt
B. Nut
C. Spring

To decrease the squeegee deflection, turn the nut on the eye bolt counter-clockwise.

Adjust both eye bolts the same amount on both sides.

6. Turn on the machine and lower the squeegee. Move the machine forward and observe the deflection of the squeegee. Readjust if necessary until the suggested deflection is reached.

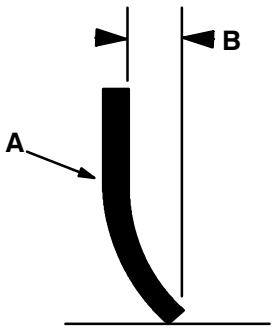
TO ADJUST SQUEEGEE DEFLECTION (for 465 serial number 010216 and above, 480 serial number 020294 and above, and 490 machines)

1. Lower the rear squeegee and move the machine forward.

2. Turn off the machine and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

3. Observe the amount of squeegee deflection. It should deflect 0.62 in (15 mm) across its entire width.

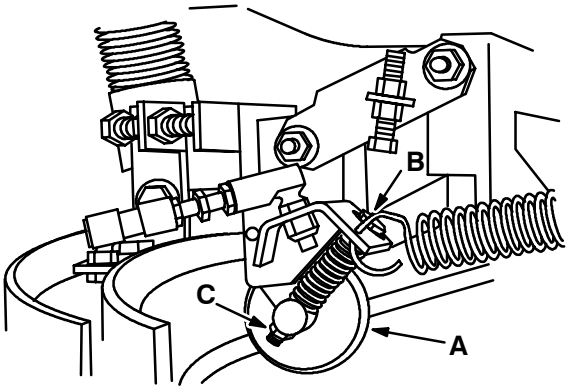


03719

SQUEEGEE DEFLECTION

A. Squeegee
B. Deflection

4. To increase the amount of squeegee blade deflection, loosen the lock nut, turn the squeegee caster height adjustment screw clockwise, then tighten the lock nut. To decrease the amount of squeegee blade deflection, loosen the lock nut, turn the squeegee caster height adjustment screw counter-clockwise, then tighten the lock nut.



05490

SQUEEGEE HEIGHT ADJUSTMENT

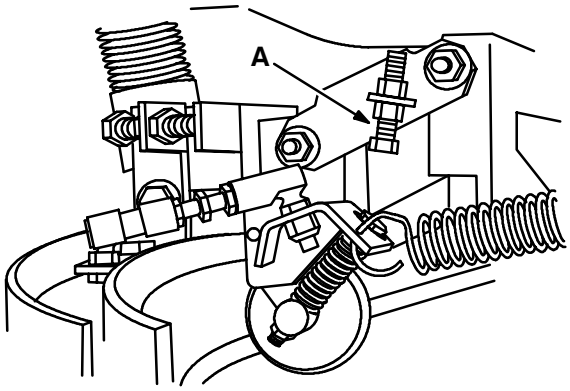
A. Caster
B. Squeegee Caster Height Adjustment Screw
C. Lock Nut

5. Turn on the machine, release the parking brake (if equipped), and move the machine forward to observe the squeegee blade deflection. Readjust the deflection if necessary.

NOTE: The tip curl at the ends of the squeegee assembly may have to be readjusted after a proper deflection has been achieved.

SQUEEGEE ASSEMBLY STOP ADJUSTMENT (for 465 serial number 010216 and above, 480 serial number 020294 and above, and 490 machines)

A squeegee assembly stop adjustment is provided to prevent the squeegee assembly from hitting the solution tanks when the assembly is raised. Adjust the stop adjustment screw so that the squeegee assembly does not hit the solution tanks when it is raised.



05490

STOP ADJUSTMENT

A. Stop Adjustment Screw

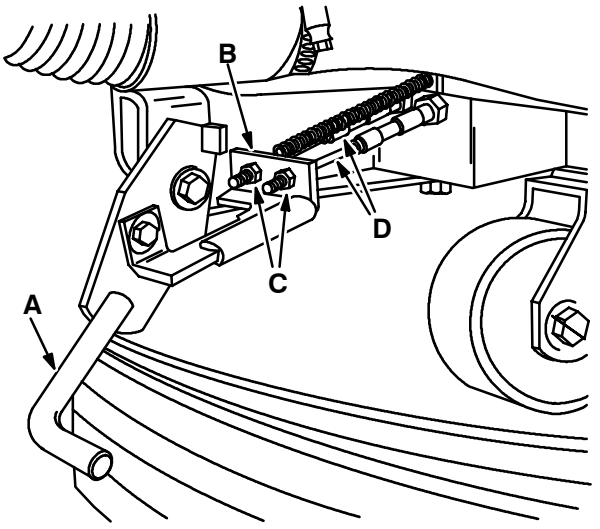
BRAKES AND TIRES

PARKING BRAKE

The parking brake is present on machines with the parking brake option. It controls the brakes on the front wheels.

The parking brake should be adjusted after every 100 hours of operation or whenever it becomes easy to engage it.

To adjust the parking brake, adjust the tension of the brake cables at the brake bracket near the brake lever. Loosen the mounting nut, turn the brake cable nut on the other side of the brake bracket clockwise to increase the tension on the brake cable. Tighten the mounting nut.



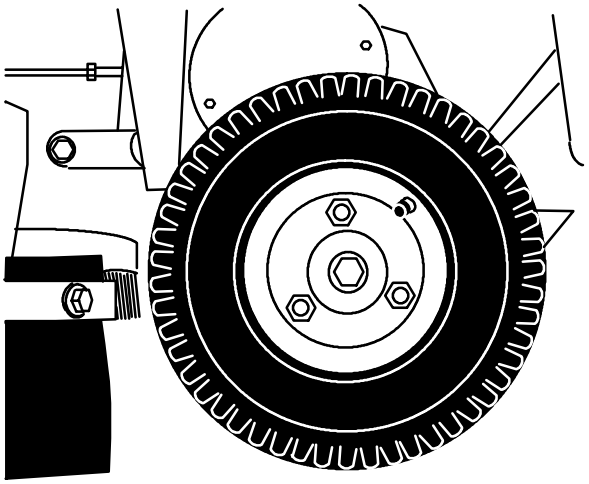
04393

PARKING BRAKE ADJUSTMENT

A. Brake Lever
B. Brake Bracket
C. Mounting Nut
D. Brake Cable

TIRES

The two front tires support the weight of the front of the machine.They are pneumatic. Check the air pressure after every 25 hours of operation. The correct air pressure is 60 to 65 psi (410 to 450 kPa).



04376

TIRE

OPTIONS

PRE-SWEEP™

The Pre-Sweep™ allows the machine to pick up small debris. Maintenance of the Pre-Sweep™ assembly includes; adjustment of the brush pattern, height adjustment of the brush side skirts, checking brush drive belt tension and wear, and replacement of seals and flaps as they become damage or worn.

PRE-SWEEP™ BRUSH

The Pre-Sweep™ brush deposits small debris in the hopper. It should be checked daily for wear and damage. Remove any string or wire found tangled on the brush, brush drive hub, or brush idler arm.

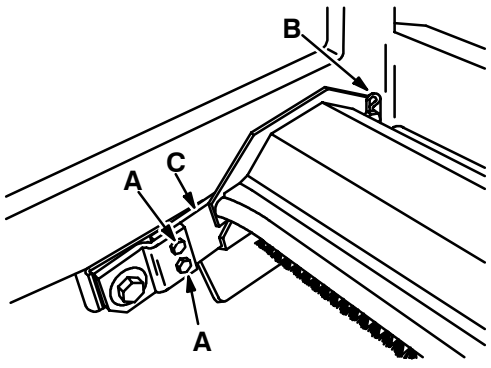
Check the main brush pattern every time a new brush is installed. The brush should be replaced whenever the bristles measure 0.38 to 0.50 in (10 to 13 mm) in length.

TO REPLACE PRE-SWEEP™ BRUSH

1. Turn the machine off and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

2. Remove the debris hopper.
3. Lower the Pre-Sweep™ brush.
4. Remove the two mounting screws holding the brush idler plate to the Pre-Sweep™ frame.



04396

PRE-SWEEP™ BRUSH IDLER

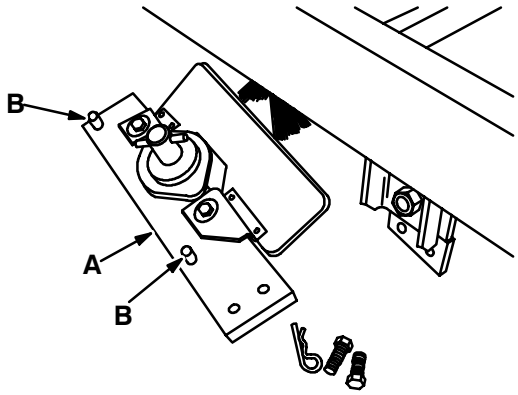
A. Mounting Screws
B. Cotter Pin
C. Brush Idler Plate

5. Pull out the cotter pin holding the idler plate to the brush frame.
6. Pull out the brush idler plate.
7. Remove the brush.

04397

REMOVING PRE-SWEEP™ BRUSH

8. Line up the drive end of the new brush with the brush drive plug.
9. Line up the idler plate with the idler end of the new brush. Line the pins on the idler plate up with holes on the brush frame.



04400

LINING UP THE IDLER PLATE

A. Idler Plate
B. Pins

10. Install the cotter pin to hold the idler plate to the brush frame.
11. Secure the brush idler plate to the Pre-Sweep™ frame with the two mounting screws.
12. Check the brush pattern as described in *TO ADJUST PRE-SWEEP™ BRUSH PATTERN*.

TO ADJUST PRE-SWEEP™ BRUSH PATTERN

1. Apply chalk, or some other material that will not blow away easily, to a smooth, level floor.

2. Turn the machine on and park the Pre-Sweep™ assembly over the chalked area. Turn the machine off and set the parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

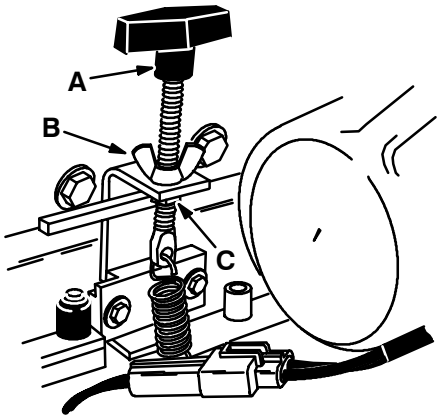
3. Lower the Pre-Sweep™ brush.

4. Turn the machine on and allow the brush to spin on the chalked area for 15 to 20 seconds.

NOTE: If no chalk or other material is available, allow the brush to spin on the floor for two minutes.

5. Look at the brush pattern. It should measure 0.75 to 1.25 in (20 to 30 mm) across the length of the brush.

6. To adjust the pattern width, loosen the wing nut on the brush handle. Turn the nut located below the brush handle bracket. Tighten the wing nut when the desired width is reached.



04392

BRUSH PATTERN ADJUSTMENT

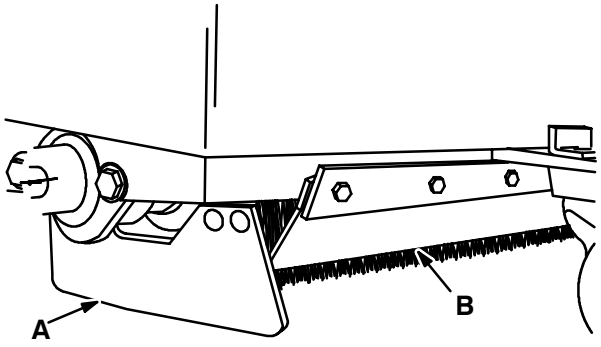
A. Brush Handle
B. Wing Nut
C. Nut

7. Replace the debris hopper.

PRE-SWEEP™ BRUSH SIDE SKIRTS

The Pre-Sweep™ brush side skirts are located on either side of the Pre-Sweep™ brush.

The Pre-Sweep™ brush side skirts should be adjusted so there is a maximum of 0.03 in (1 mm) space between the floor and the bottom of the skirt. Check the side skirt clearance after 80 hours of operation.



04398

PRE-SWEEP™ SIDE SKIRT

A. Side Skirt
B. Rear Skirt

PRE-SWEEP™ BRUSH DRIVE BELT

The Pre-Sweep™ brush drive belt transfers power from the Pre-Sweep™ brush motor to the brush. The belt tension should be checked every 80 hours of operation. The belt is properly tensioned when the belt deflects 0.11 in (3 mm) from a force of 3.6 to 5.4 lb (1.6 to 2.5 kg).

TO REPLACE AND ADJUST THE BRUSH DRIVE BELT

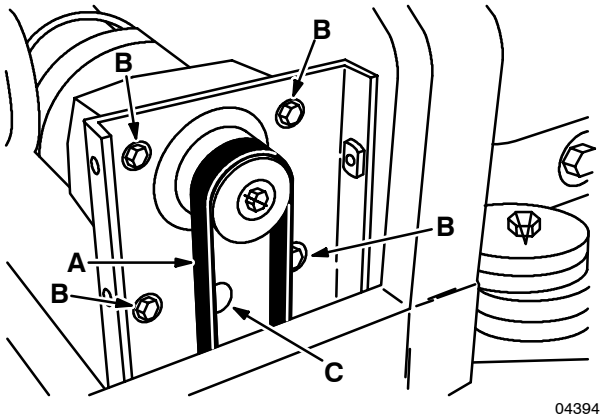
1. Turn the machine off and set the machine parking brake, if equipped.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, Set Parking Brake (If Equipped), And Turn Off Machine And Remove Key.

2. Remove the debris hopper.

3. Remove the belt cover.

4. Loosen the four adjustment bolts on either side of the belt.



PRE-SWEEP™ DRIVE BELT

A. Drive Belt
B. Adjustment Bolts
C. Pry Hole

5. Remove the old belt.

6. Place the new belt on the sheaves.

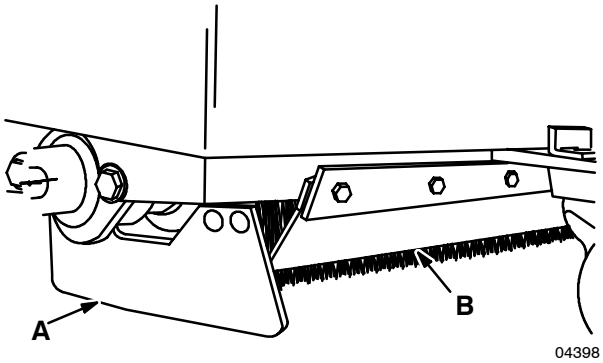
7. Place a large screwdriver in the pry hole and put tension on the belt. Tighten the four adjustment bolts. Check the tension, and readjust if necessary.

8. Replace the belt cover.

9. Replace the debris hopper.

PRE-SWEEP™ REAR SKIRT

The Pre-Sweep™ rear skirt helps keep debris away from the scrub brushes. It is located behind the Pre-Sweep™ brush. Check the rear skirt every 25 hours of operation for damage and wear.



PRE-SWEEP™ REAR SKIRT

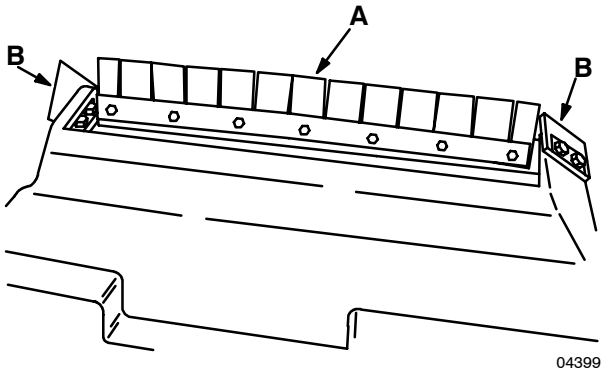
A. Side Skirt
B. Rear Skirt

DEBRIS HOPPER SLIT SKIRT

The debris hopper slit skirt helps direct debris into the hopper. It is located at the bottom rear of the debris hopper. The rear lip of the slit should always lie flat and contact the floor. Check the skirt every 25 hours of operation for damage or wear.

PRE-SWEEP™ HOPPER SEALS

There are several seals to seal the debris hopper. One seal is located on the Pre-Sweep™ frame where the debris hopper comes in contact with the frame. There is also two seals located on the both sides of the debris hopper. Check these seals every 25 hours of operation for damage or wear.



PRE-SWEEP™ HOPPER SKIRTS AND SEALS

A. Hopper Slit Skirt
B. Hopper Seal

SECTION 4

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THREAD SEALANT AND LOCKING COMPOUNDS 4–3

HARDWARE INFORMATION

The following charts state standard plated hardware tightening ranges for normal assembly applications. Decrease the specified torque by 20% when using a thread lubricant. Do not substitute lower grade hardware for higher grade hardware. If higher grade hardware than specified is substituted, tighten only to the specified hardware torque value to avoid damaging the threads of the part being threaded into, as when threading into speed nuts or weldments.

STANDARD BOLT TORQUE CHART

Thread Size	SAE Grade 5 Torque ft lb (Nm)	SAE Grade 8 Torque ft lb (Nm)
0.25 in	7–10 (9–14)	10–13 (14–38)
0.31 in	15–20 (20–27)	20–26 (27–35)
0.38 in	27–35 (37–47)	36–47 (49–64)
0.44 in	43–56 (58–76)	53–76 (72–103)
0.50 in	65–85 (88–115)	89–116 (121–157)
0.62 in	130–170 (176–231)	117–265 (159–359)
0.75 in	215–280 (291–380)	313–407 (424–552)
1.00 in	500–650 (678–881)	757–984 (1026–1334)

NOTE: Decrease torque by 20% when using a thread lubricant.

METRIC BOLT TORQUE CHART

Thread Size	Class 8.8 Torque ft lb (Nm)	Class 10.9 Torque ft lb (Nm)
M4	2 (3)	3 (4)
M5	4 (5)	6 (8)
M6	7 (9)	10 (14)
M8	18 (24)	25 (34)
M10	32 (43)	47 (64)
M12	58 (79)	83 (112)
M14	94 (127)	133 (180)
M16	144 (195)	196 (265)
M20	260 (352)	336 (455)
M24	470 (637)	664 (900)

NOTE: Decrease torque by 20% when using a thread lubricant.

Exceptions to the above chart:

Not available at time of publication.

BOLT IDENTIFICATION

Identification Grade Marking	Specification and Grade
	SAE–Grade 5
	SAE–Grade 8
	ISO–Grade 8.8
	ISO–Grade 10.9

01395

THREAD SEALANT AND LOCKING COMPOUNDS

Thread sealants and locking compounds may be used on this machine. They include the following:

Locktite 515 sealant – gasket forming material. TENNANT® Part No. 75567,15 oz (440 ml) cartridge.

Locktite 242 blue – medium strength thread locking compound. TENNANT® Part No. 32676, 0.5 ml tube.

Locktite 271 red – high strength thread locking compound. TENNANT® Part No. 19857, 0.5 ml tube.

HOW TO USE THIS MANUAL

This section on *HOW TO USE THIS MANUAL* will tell you how to:

- Find important machine information for ordering correct repair parts.
- Find TENNANT part numbers.
- Order TENNANT parts and supplies.

IMPORTANT INFORMATION

When placing an order for parts, the machine model and machine serial number are important. Refer to the *MACHINE DATA* box which is filled out during the installation of your machine. The *MACHINE DATA* box is located on the inside of the front cover of this manual.

MACHINE DATA

Please fill out at time of installation.

Machine Serial Number – _____

Engine Serial Number – _____

Sales Representative – _____

Customer Number – _____

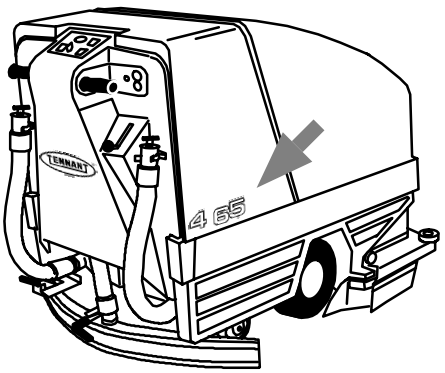
Date of Installation – _____

Manual Number – MM184

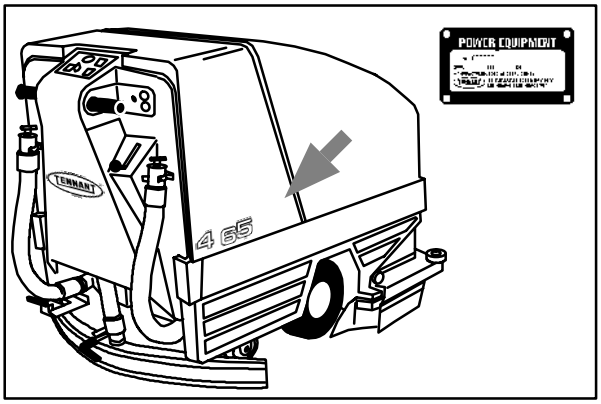
Revision: 11

Published: 9–93

The model number of your machine is on the side of the machine.



The serial number of your machine is printed on the machine data plate located as shown.



FINDING A TENNANT PART NUMBER

This manual contains the following sections:

- HOW TO USE THIS MANUAL
- STANDARD PARTS
- OPTIONS
- BREAKDOWNS
- CROSS REFERENCE

The STANDARD PARTS section lists repair parts for standard machines. They are grouped in this general order:

- General wear parts.
- Machine frame and related parts.
- Machine propelling system.
- Scrubbing components.
- Electrical parts.

The OPTION section lists repair parts of options.

The BREAKDOWN section lists available repair parts of major components.

All sections in this manual consist of parts illustrations and corresponding parts lists.

The parts illustrations are numbered with ***Ref*** numbers which refer to corresponding parts lists.

The parts lists include a number of columns of information:

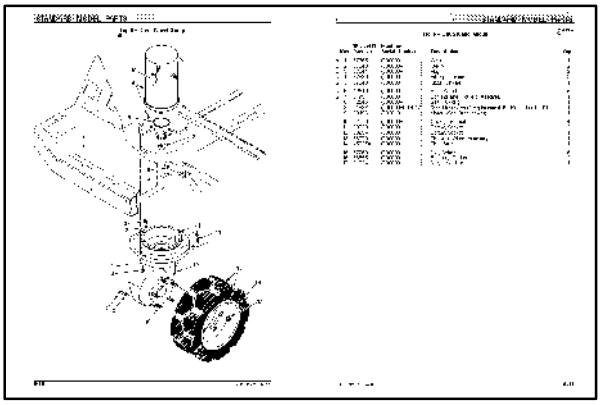
- ***Ref*** – column refers to the reference number on the parts illustration.
  ∇ – indicates the part is an assembly.
  ▲ – indicates the part is included in the assembly listed just before it.

- ***TENNANT Part No.*** – column lists the TENNANT part number for the part.

- ***Serial Number*** – column indicates the set of machines the part number is applicable to. Serial numbers change when the machine design has been modified. The most current design of the machine is shown in the main illustration, older designs are boxed in a corner of the illustration.

- ***Description*** – column is a brief description of the part.

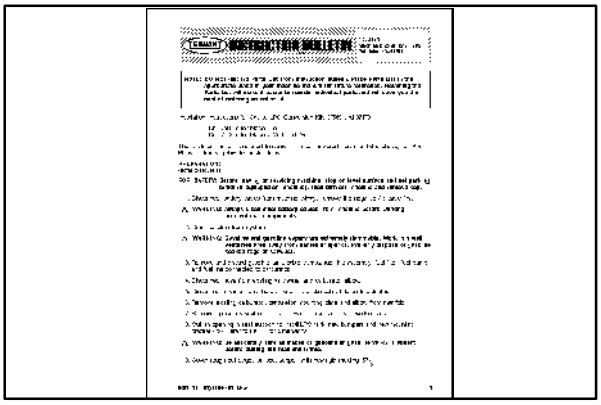
- ***Qty.*** – column lists the quantity of that part used in that area of the machine.



Key	TENNANT Part No.	Machine Serial Number	Description	Qty.
∇ 1	87356	(000000–)	Gearbox	1
▲ 2	87840	(000000–)	O-Ring	2
▲ 3	87841	(000000–)	Plug	2
▲ 4	87839	(000000–)	Fitting, Grease	2
▲ 5	87840	(000000)	Gear, Driving	1
▲ 6	12540	(000000–)	Bolt, Wheel	5
▲ 7	01791	(000000–)	Bearing and Housing Assembly	1
8	12545	(000000–)	Seal, O-Ring	1
9	31992	(000000-032017)	(See Breakdowns) Replacement Kit Motor For 86356	1
9	60196	(032018–)	Motor (See Breakdowns)	1
10	02076	(000000–)	Cover, Terminal	4
11	09000	(000000–)	Screw, Socket	2
12	09294	(000000–)	Screw, Socket	1
13	86970	(000000–)	Tire and Wheel Assembly	1
14	460270	(000000–)	Tire, Solid	1
15	87750	(000000–)	Nut, Wheel	5
16	56855	(000000)	Bumper, Rubber	2
17	51824	(000000–)	Nut, Hex, Thn	1

NOTE: If a service kit is installed on your machine, be sure to keep the INSTRUCTION BULLETIN which came with the kit. It contains repair parts numbers needed for ordering future parts.

NOTE: Fasteners used in this machine may be metric or non-metric. Take care when replacing hardware to replace with same thread size.



PLACING AN ORDER

Orders may be placed by phone, fax, or by mail. Phone orders may need written confirmation. Follow the steps below to insure prompt delivery:

1. Identify the model number of your machine.
2. Identify the serial number of your machine.
3. Find the part number of the part you need. Do not order by page number or reference number. If you are not able to find the part number, call your TENNANT representative for help or send the old part as a sample.
4. Determine the quantity of the part you need.
5. Provide the following company information:
   - Company name
   - Customer ID Number
   - Shipping address
   - Billing address
   - First and last name of person ordering parts
   - Telephone number
   - Purchase order number
6. Provide definitive shipping instructions.

Any claim for loss or damage to a shipment in transit should be filed promptly with the transportation company making the delivery. Shipments will be complete unless the packing list or order acknowledgement indicates items back ordered.

If parts received are suspected to be incorrect or defective, please contact the TENNANT representative from whom you ordered the part. They will give authorization for return and/or handle replacement shipments when required.

SECTION 6

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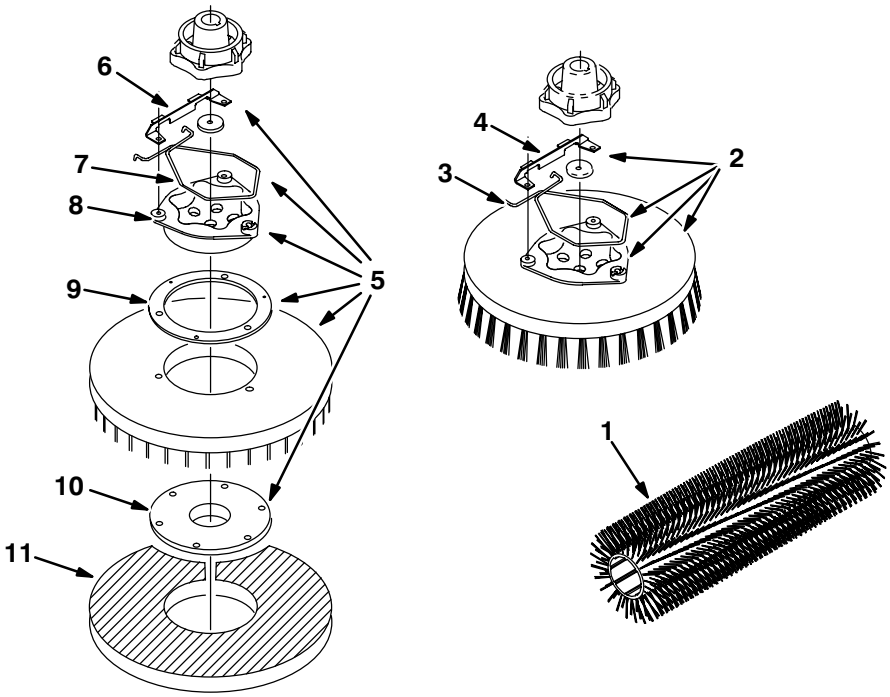
05156

Fig. 1 – Recommended General Maintenance Items

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇	11484	(010000–010734)	Squeegee Blade Kit, Short	1
▲	04894	(010000–010734)	Squeegee Blade Assembly, Front	1
▲	04898	(010000–010734)	Squeegee Blade Assembly, Rear	1
▲	33437	(010000–010734)	Blade, Squeegee End	2
∇	24686	(010735–)	Squeegee Blade Kit, Long	1
▲	33357	(010735–)	Squeegee Blade Assembly, Front	1
▲	33352	(010735–)	Squeegee Blade Assembly, Rear	1
▲	11283	(010735–)	Blade, Squeegee End	2
	78544	(010735–)	Squeegee Blade Assembly, Front, Urethane	1
	78545	(010735–)	Squeegee Blade Assembly, Rear, Urethane	1

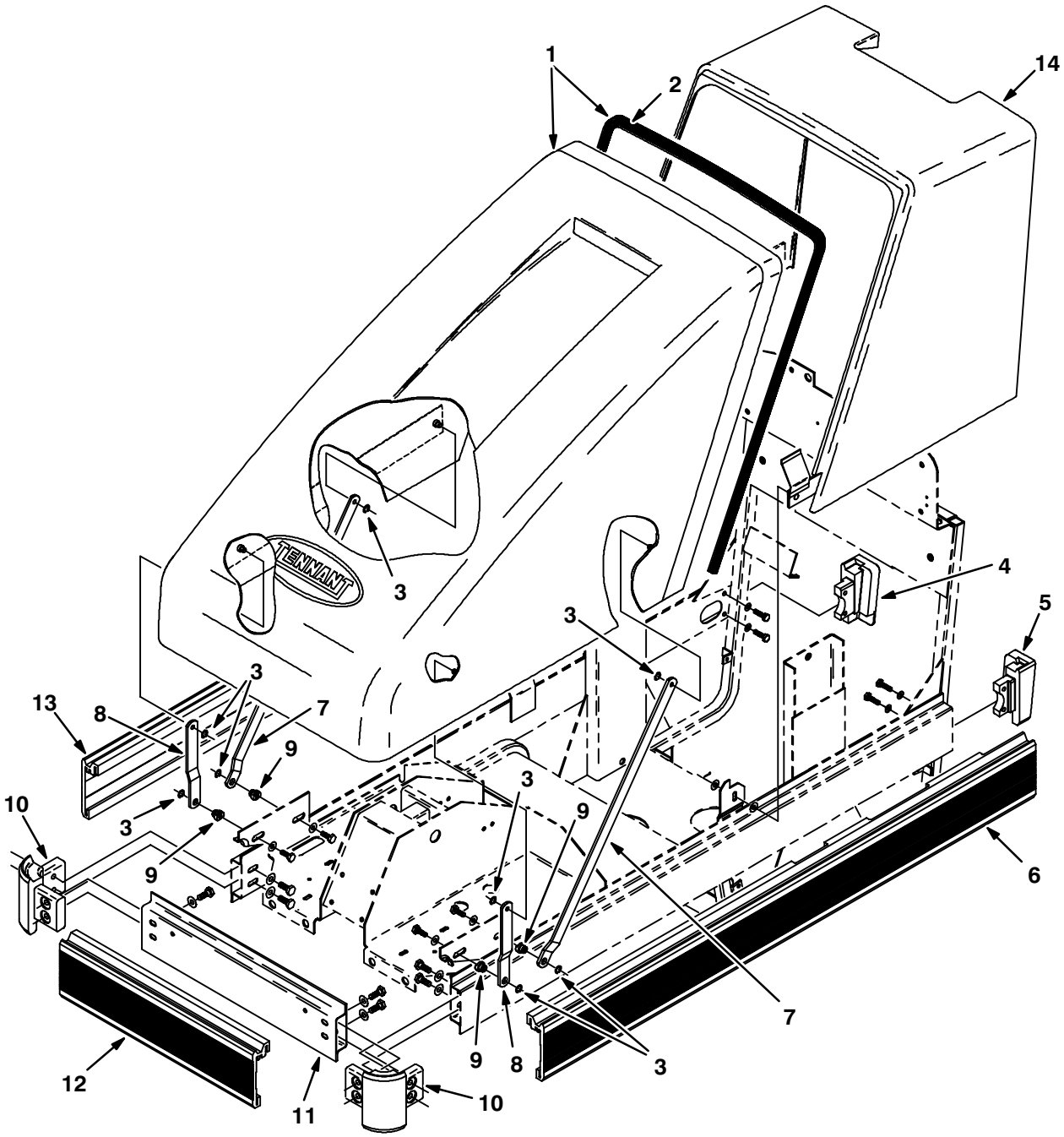
Fig. 2 – Replacement Brushes



05103/05105

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
	1	11681	(000000–)	Brush, Pre–Sweep, Polypropylene	1
∇	2	05729	(000000–)	Scrub Brush Assembly, Stiff Polypropylene	2
▲	3	14838	(000000–)	Spring, Brush, Retaining	1
▲	4	24299	(000000–)	Bracket, Spring, Retainer	1
∇		30240	(000000–)	Scrub Brush Assembly, Polypropylene	2
▲		14838	(000000–)	Spring, Brush, Retaining	1
▲		24299	(000000–)	Bracket, Spring, Retainer	1
∇		05728	(000000–)	Scrub Brush Assembly, Nylon	2
▲		14838	(000000–)	Spring, Brush, Retaining	1
▲		24299	(000000–)	Bracket, Spring, Retainer	1
∇		05730	(000000–)	Scrub Brush Assembly, Abrasive Nylon	2
▲		14838	(000000–)	Spring, Brush, Retaining	1
▲		24299	(000000–)	Bracket, Spring, Retainer	1
∇		05033	(000000–)	Scrub Brush Assembly, Bassine	2
▲		14838	(000000–)	Spring, Brush, Retaining	1
▲		24299	(000000–)	Bracket, Spring, Retainer	1
∇		05034	(000000–)	Scrub Brush Assembly, Wire	2
▲		14838	(000000–)	Spring, Brush, Retaining	1
▲		24299	(000000–)	Bracket, Spring, Retainer	1
∇	5	30215	(000000–)	Scrub Driver Pad Assembly, Polypropylene	2
▲	6	24299	(000000–)	Bracket, Retainer Spring	1
▲	7	14838	(000000–)	Spring, Brush Retaining	1
▲	8	15539	(000000–)	Adaptor, Brush	1
▲	9	11218	(000000–)	Spacer, Pad Holder	1
▲	10	19783	(000000–)	Holder. Pad	1
	11	89046	(000000–)	Pad, Stripper, Brown	2
		89047	(000000–)	Pad, Scrubber, Blue	2
		89048	(000000–)	Pad, Buffer, Red	2
		89049	(000000–)	Pad, Polish, White	2

Fig. 3 – Hood and Bumper Group

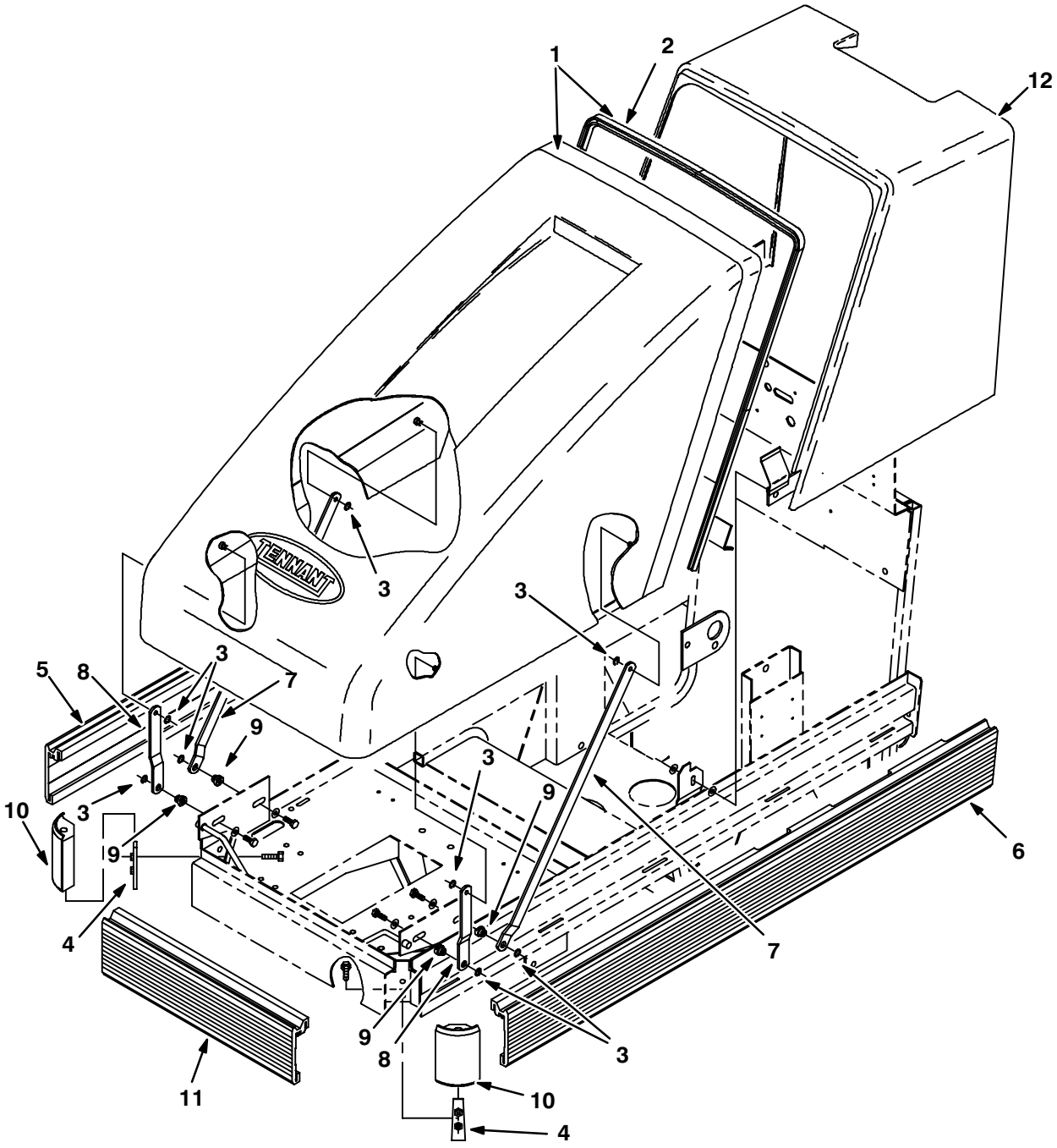


04789/04199

Fig. 3 – Hood and Bumper Group

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇	1	05043	(010000–010961)	Cover, Front	1
▲	2	33360	(010000–010961)	Seal	1
	3	05284	(010000–010961)	Clip, Retainer	8
	4	10987	(010000–010961)	Corner Block, Frame, R.H.	1
	5	10988	(010000–010961)	Corner Block, Frame, L.H.	1
	6	05070	(010000–010961)	Bumper, Side L.H.	1
	7	05236	(010000–010961)	Bar, Hinge Long	2
	8	05223	(010000–010961)	Bar, Hinge Short	2
	9	05272	(010000–010961)	Spacer, Hinge	4
	10	04945	(010000–010961)	Block Assembly, Corner Frame	2
	11	04993	(010000–010961)	Channel, Nose, Frame	1
	12	05072	(010000–010961)	Bumper, Front	1
	13	05276	(010000–010961)	Bumper, Side R.H.	1
	14	05054	(010000–010961)	Cover, Rear	1

Fig. 4 – Hood and Bumper Group

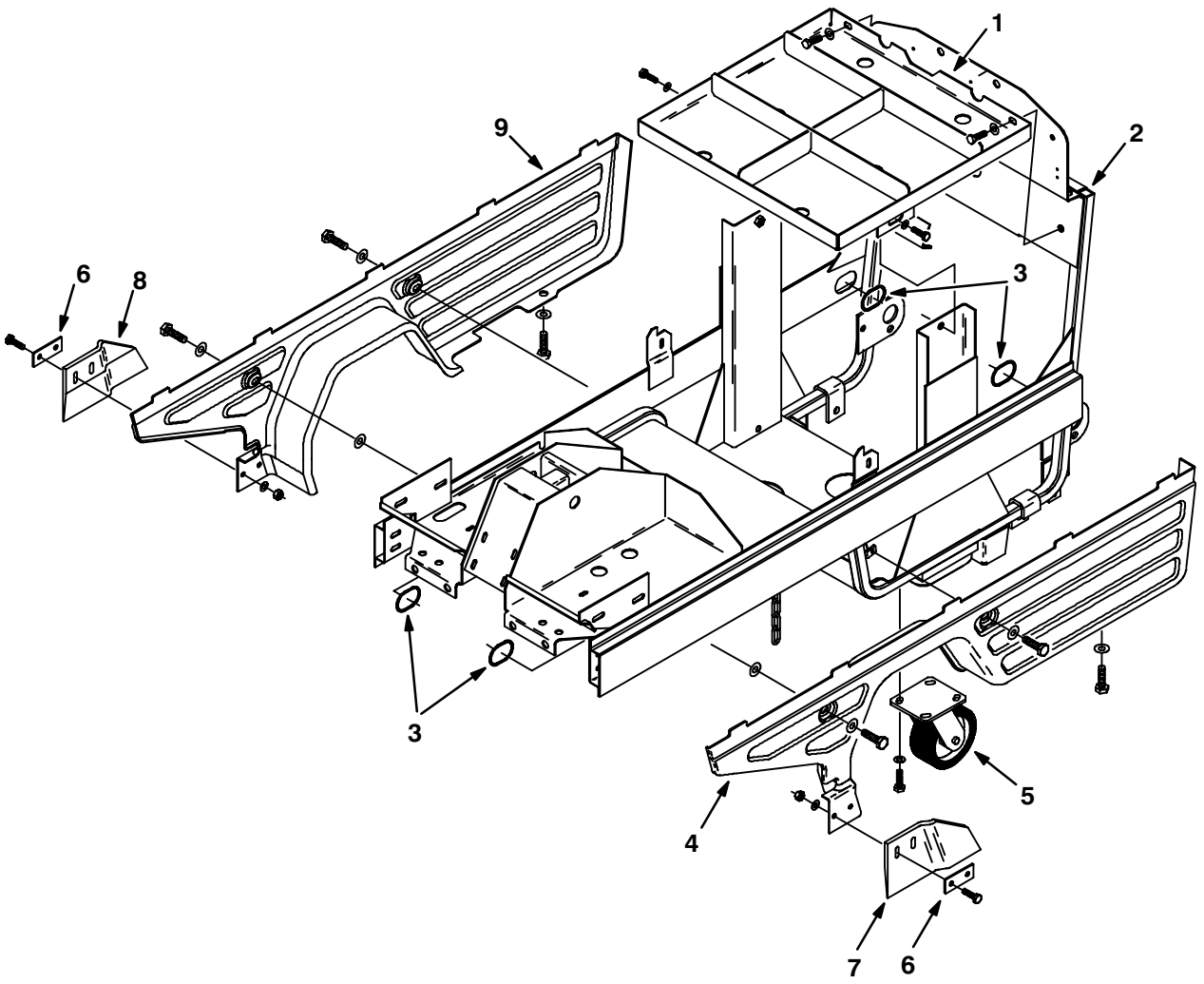


06166/06143

Fig. 4 – Hood and Bumper Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	05043	(010962–	)	Cover, Front	1
▲	2	33360	(010962–	)	Seal	1
	3	05284	(010962–	)	Clip, Retainer	8
	4	33454	(010962–	)	Plate, Mount	2
	5	33537	(010962–	)	Bumber, Side, R.H.	1
	6	33536	(010962–	)	Bumper, Side, L.H.	1
	7	05236	(010962–	)	Bar, Hinge Long	2
	8	05223	(010962–	)	Bar, Hinge Short	2
	9	05272	(010962–	)	Spacer, Hinge	4
	10	33407	(010962–	)	Block, Corner Frame	2
	11	05072	(010962–	)	Bumper, Front	1
	12	05054	(010962–	)	Cover, Rear	1

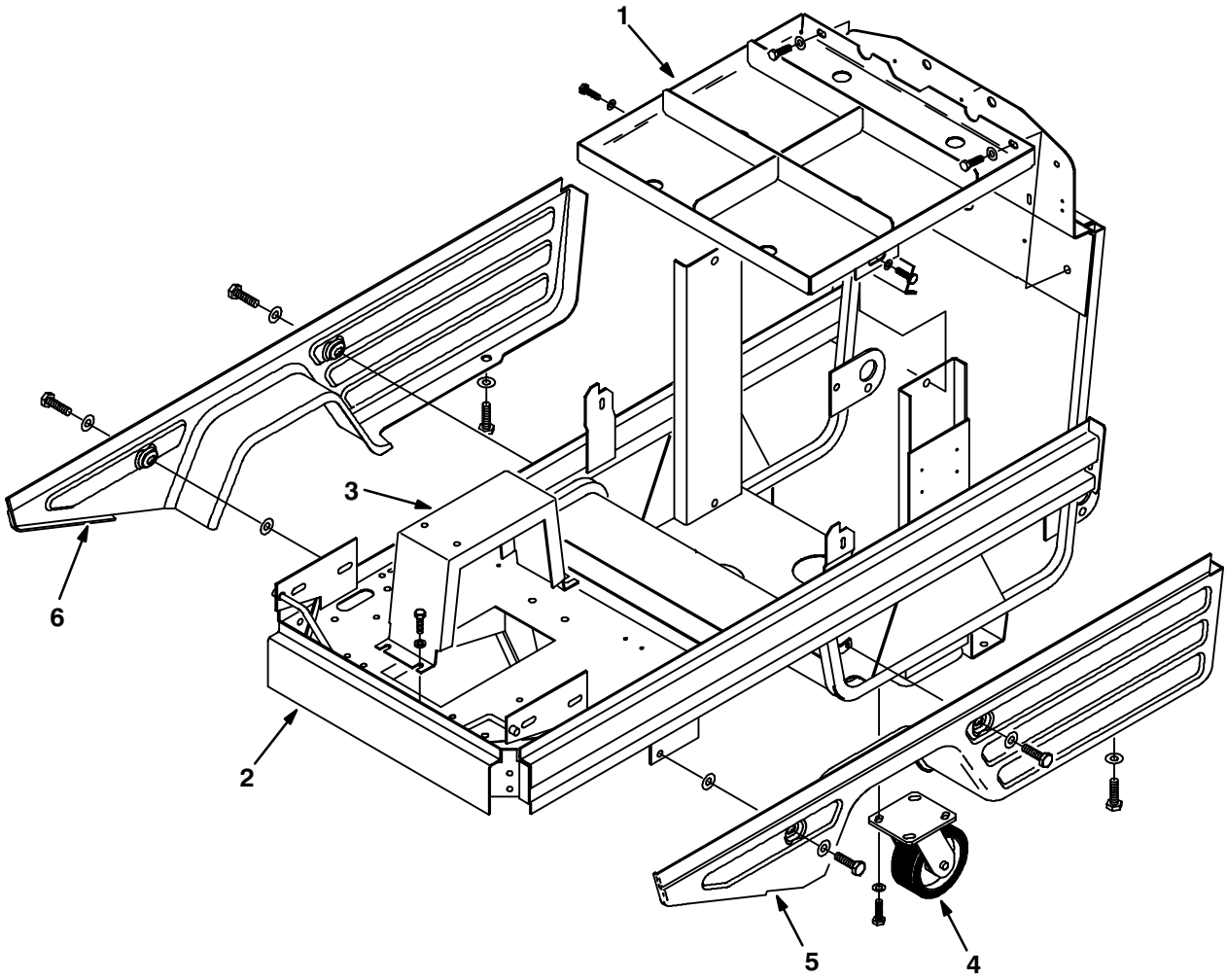
Fig. 5 – Main Frame Group



05040/04197

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	05006	(010000–010961)	Tray, Battery	1
2	24863	(010000–010961)	Frame Replacement Kit	1
3	27929	(010000–010961)	Grommet	4
4	05048	(010000–010961)	Panel, Lower, L.H.	1
5	65690	(010000–010961)	Caster	2
6	10931	(010000–010961)	Strip, Skirt Retainer	2
7	10929	(010000–010961)	Skirt, Lower Panel, L.H.	1
8	10930	(010000–010961)	Skirt, Lower Panel, R.H.	1
9	05047	(010000–010961)	Panel, Lower, R.H.	1

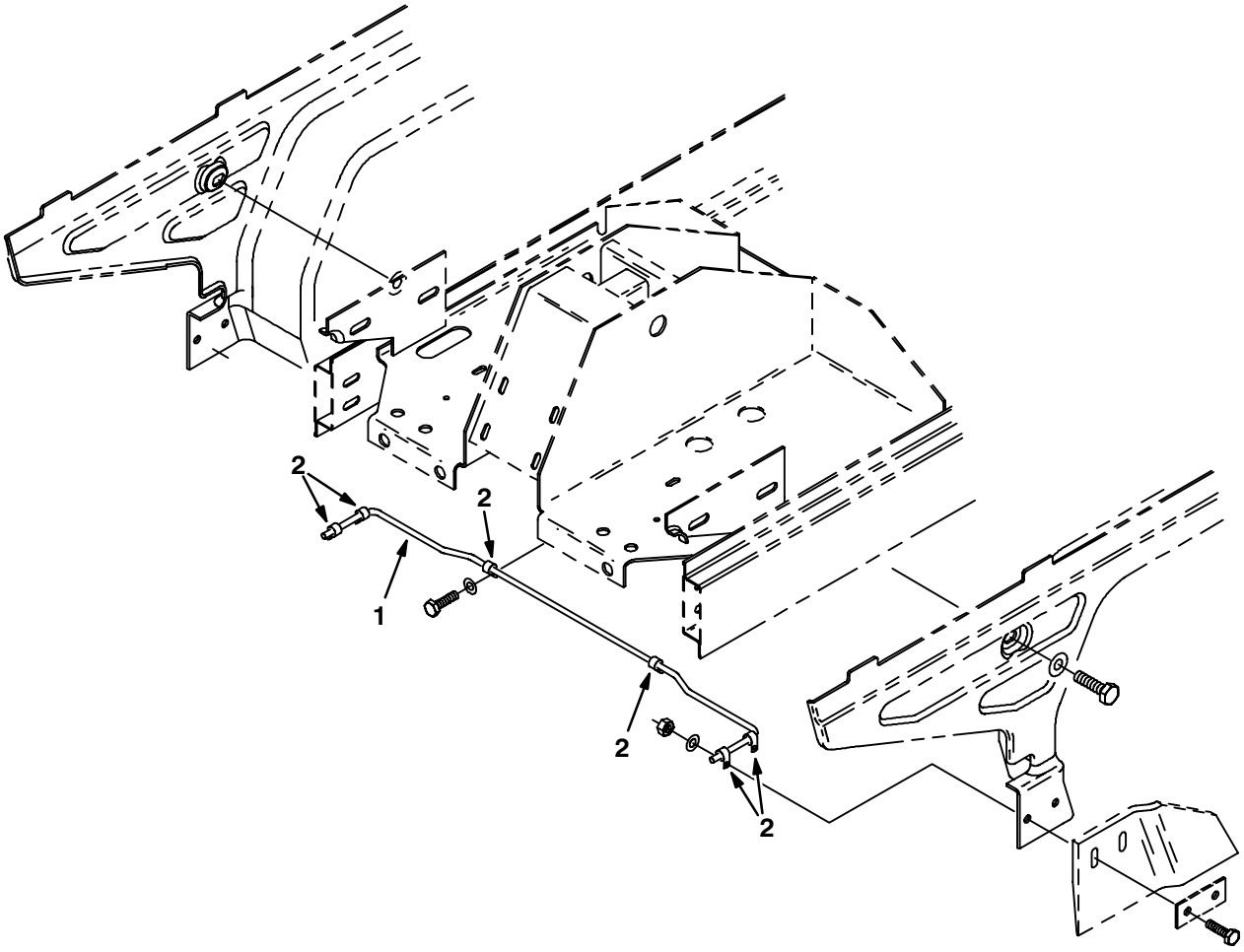
Fig. 6 – Main Frame Group



06168/06142

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	05006	(010962–)	Tray, Battery	1
2	33490	(010962–)	Frame, Main	1
3	33515	(010962–)	Channel	1
4	65690	(010962–)	Caster	2
5	33548	(010962–)	Panel, Cover, L.H.	1
6	33583	(010962–)	Panel, Lower, R.H.	1

Fig. 7 – Side Skirt Support Group

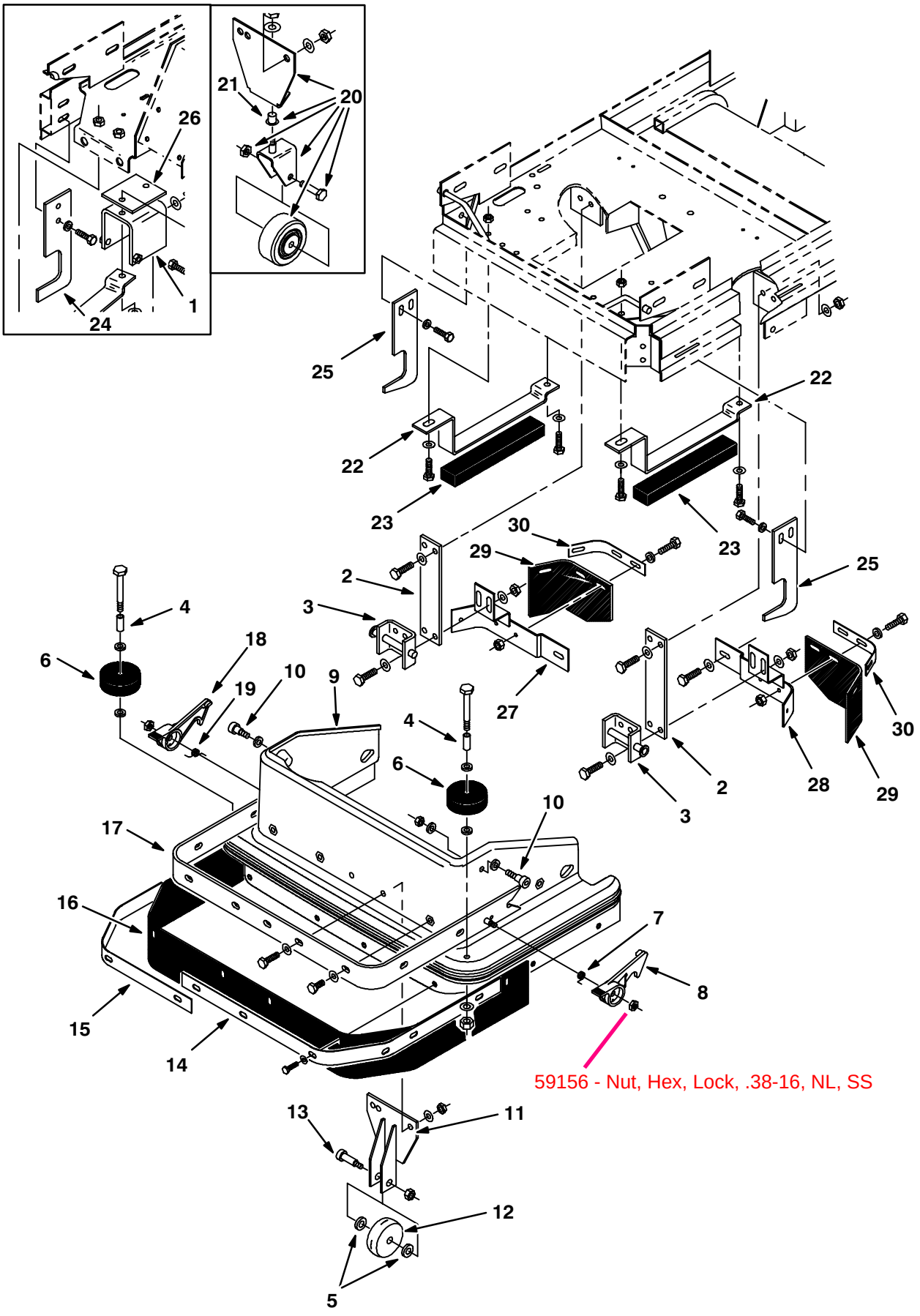


05042/04771

Fig. 7 – Side Skirt Support Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	05646	(010000–010961)	Spring, Skirt Mounting	1
2	46236	(010000–010961)	Clamp, Cable	6

Fig. 8 – Front Shroud Group

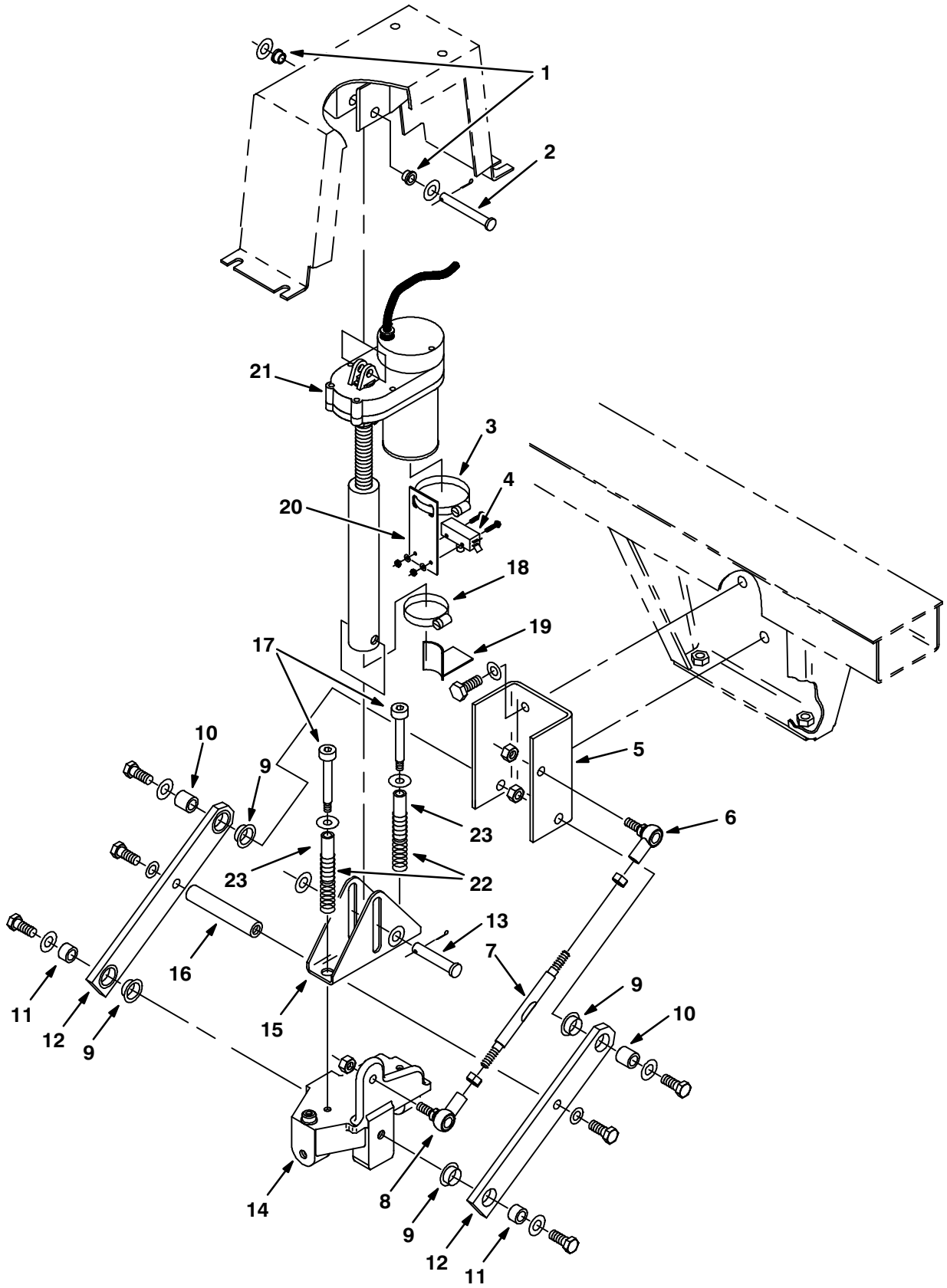


04787/04226

Fig. 8 – Front Shroud Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	06103	(010000–010961	)	Bracket, Spring Mounting	2
	2	06108	(010000–	)	Spring	2
	3	05214	(010000–	)	Bracket, Shroud Mounting	2
∇		28496	(010000–	)	Scrub Shroud Replacement Kit	1
▲	4	33427	(010000–	)	Sleeve	2
▲	5	59633	(010560–	)	Bearing, Fiberglide Thrust	2
▲	6	86800	(010000–	)	Wheel	2
▲	7	10927	(010000–	)	Spring, Torsion, L.H.	1
▲	8	11613	(010000–	)	Latch, Shroud, L.H.	1
▲	9	28494	(010000–	)	Panel, Scrub Shroud	1
▲	10	36758	(010560–	)	Screw, Shoulder	2
▲	11	28365	(010560–	)	Bracket, Wheel	1
▲	12	86800	(010560–	)	Wheel	1
▲	13	86791	(010560–	)	Screw, Shoulder	1
▲	14	05222	(010000–	)	Strip, Skirt Retainer, L.H.	1
▲	15	05233	(010000–	)	Strip, Skirt Retainer, R.H.	1
▲	16	05240	(010000–	)	Skirt, Scrub Head	1
▲	17	05050	(010000–	)	Strap, Shroud	1
▲	18	11612	(010000–	)	Latch, Shroud, R.H.	1
▲	19	10928	(010000–	)	Spring, Torsion, R.H.	1
	20	28360	(010000–010559	)	Wheel Replacement Kit	1
	21	11489	(010000–010559	)	Bearing, Flanged	1
	22	04790	(010000–010961	)	Bracket, Head Stop	2
	22	24933	(010962–	)	Bracket, Head Stop	2
	23	04832	(010000–	)	Pad, Head Stop	2
	24	28366	(010560–010961	)	Plate, Shroud	2
	25	24852	(010962–	)	Plate, Mount	2
	26	28238	(010000–010961	)	Plate, Spacer	2
	27	33535	(010962–	)	Bracket, Skirt, R.H.	1
	28	33533	(010962–	)	Bracket, Skirt, L.H.	1
	29	33532	(010962–	)	Skirt, Side	2
	30	33477	(010962–	)	Strip, Backup	2

Fig. 9 – Scrub Head Lift Group

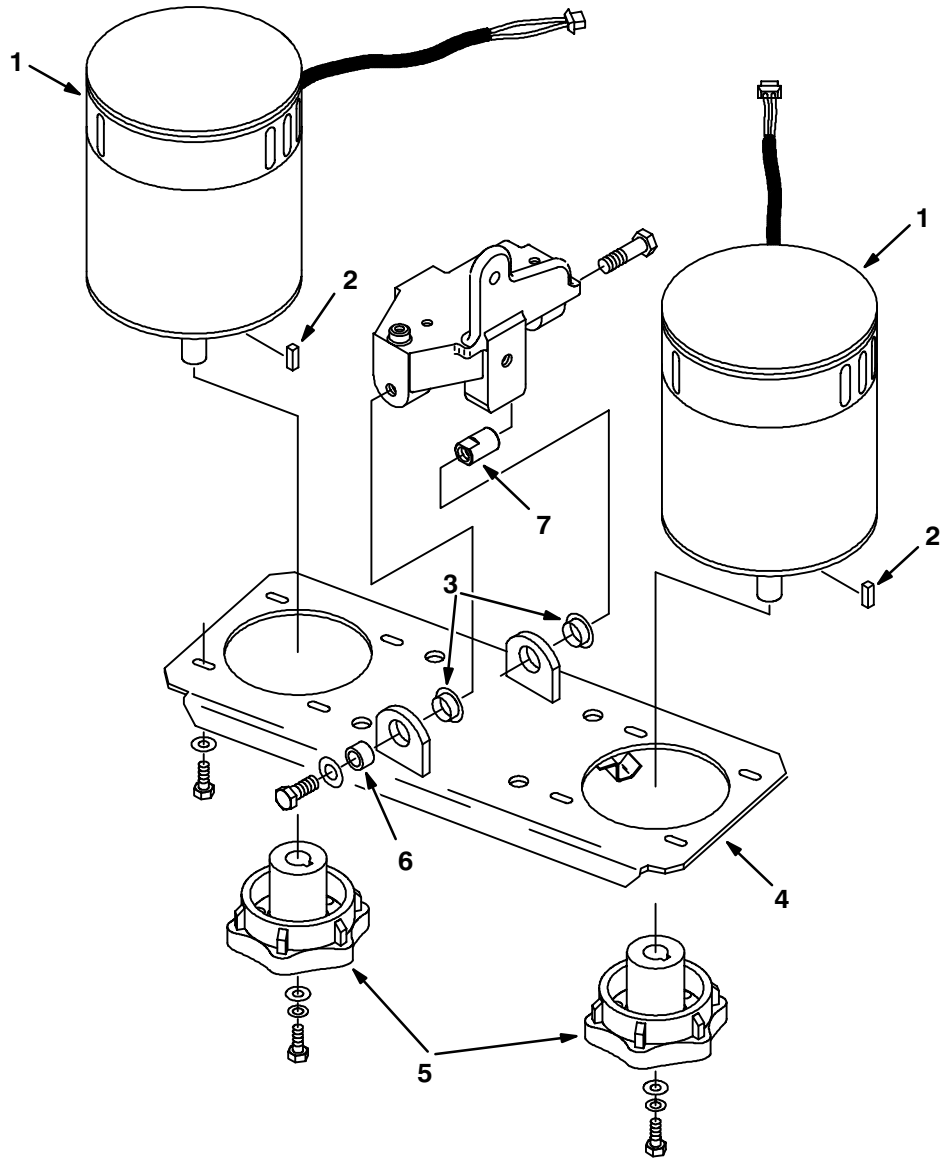


04791/04193

Fig. 9 – Scrub Head Lift Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	44238–10	(010000–)	Bushing, Flange	2
2	29584	(010000–)	Pin, Clevis	1
3	14432	(010000–)	Clamp, Worm Drive	1
4	63846	(010000–)	Switch, Push Button	1
5	05292	(010000–)	Bracket, Link Mount	1
6	05685	(010000–)	Rod End, M10, L.H.	1
7	04921	(010000–)	Rod, Adjusting	1
8	05686	(010000–)	Rod End, M10, R.H.	1
9	04928	(010000–)	Bearing, Flange	4
10	05019	(010000–)	Sleeve	2
11	04927	(010000–)	Sleeve	2
12	04920	(010000–)	Bar, Pivot	2
13	11211	(010000–)	Pin, Clevis	1
14	04924	(010000–)	Pivot, Scrub Head	1
15	10957	(010000–)	Bracket, Head Lift	1
16	04942	(010000–)	Spacer, Rod	1
17	10964	(010000–)	Screw, Shoulder	2
18	11399	(010000–)	Clamp, Worm Drive	1
19	10954	(010000–)	Bracket, Switch	1
20	10951	(010000–)	Bracket, Switch	1
21	10963	(010000–)	Actuator, 36 V	1
22	45261	(010000–)	Spring	2
23	50682	(010000–)	Sleeve	2

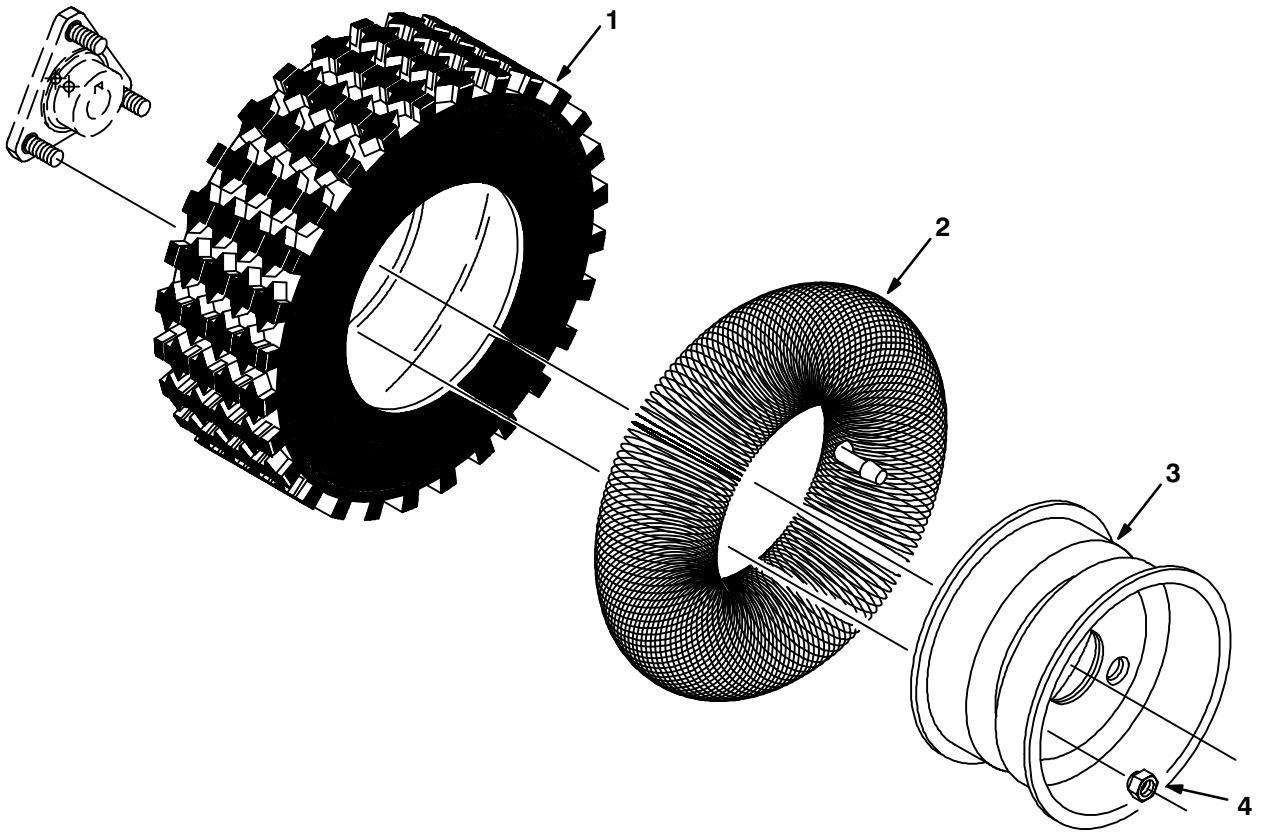
Fig. 10 – Scrub Head Group



04191/05093

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	04742	(010000–	)	Motor, 36 V (See Breakdowns)	2
2	00926	(010000–	)	Key, Square	2
3	04928	(010000–	)	Bearing, Flange	2
4	05075	(010000–	)	Plate, Brush Drive	1
5	14841	(010000–	)	Hub, Brush Drive	2
6	04927	(010000–	)	Sleeve	1
7	05612	(010000–	)	Sleeve, Scrub Head Rear	1

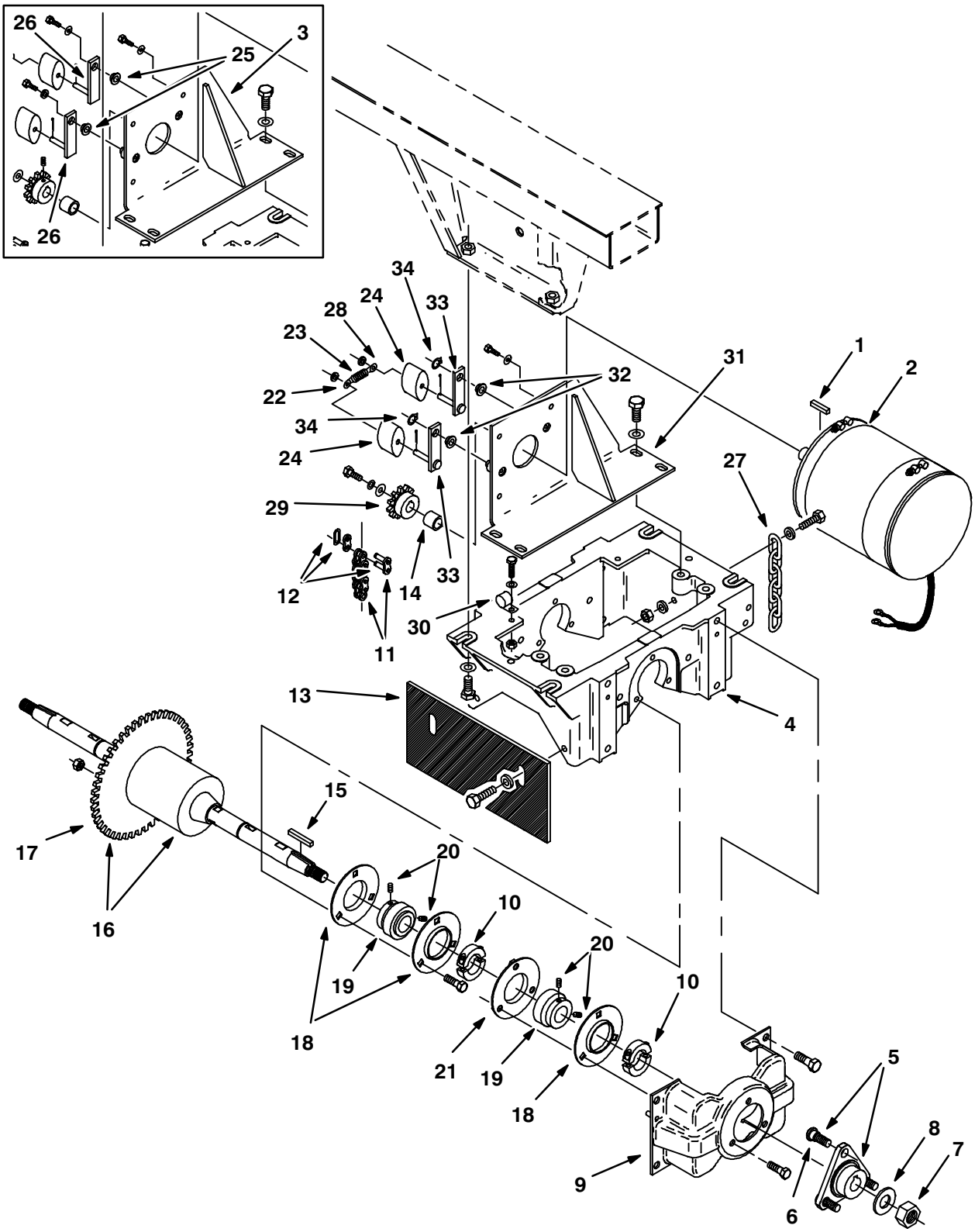
Fig. 11 – Tire and Rim Assembly



04774/04200

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		61597	(010000–	)	Tire and Rim Assembly	2
▲	1	61596	(010000–	)	Tire	1
▲	2	04658	(010000–	)	Tube, Inner	1
▲	3	04657	(010000–	)	Rim	1
	4	11109	(010000–	)	Nut, Wheel	6

Fig. 12 – Single Drive Group

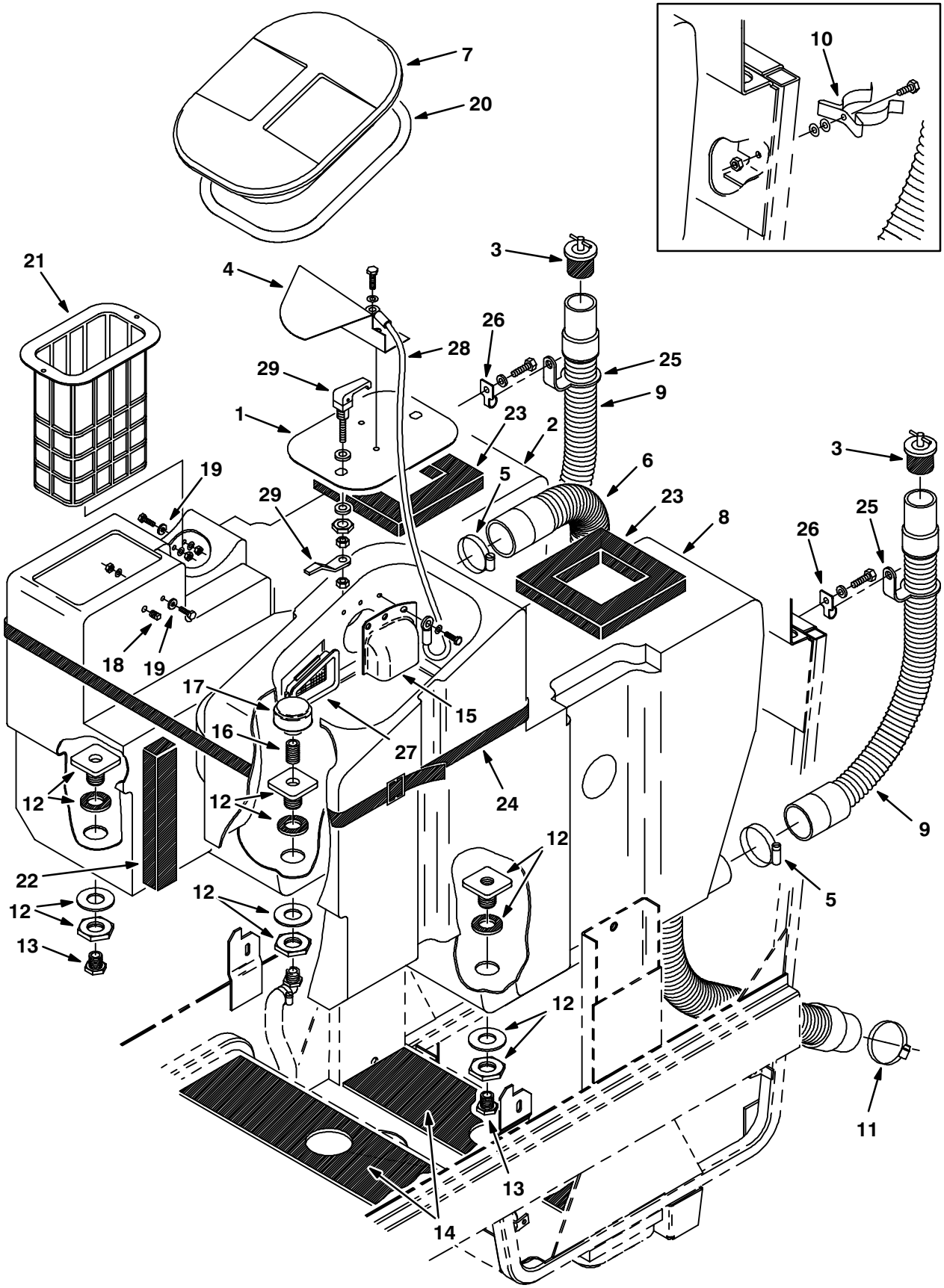


04785/04194

Fig. 12 – Single Drive Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	00926	(010000–	)	Key, Square	1
	2	05680	(010000–	)	Motor, Electric (See Breakdowns)	1
	3	24553	(010000–011044	)	Plate Kit, Motor Mounting	1
	4	05191	(010000–	)	Housing, Drive Wheel Support	1
∇	5	05606	(010000–	)	Hub Assembly, Single Drive	2
▲	6	11117	(010000–	)	Stud, Wheel	3
	7	33342	(010000–	)	Nut, Nylon Hex, M16	2
	8	04400	(010000–	)	Washer, M16	2
	9	11088	(010000–	)	Bracket, Support Bearing	2
	10	05696	(010000–	)	Collar, Clamping	4
∇	11	61416	(010000–	)	Chain and Link Assembly	1
▲	12	28272	(010000–	)	Link, Roller Chain	1
	13	24645	(010000–	)	Skirt	1
	14	04744	(010000–	)	Spacer	1
	15	00927	(010000–	)	Key, Square	2
∇	16	24682	(010000–	)	Differential and Sprocket Replacement Kit	1
▲	17	11127	(010000–	)	Sprocket	1
▲	18	36190	(010000–	)	Flange	6
▲∇	19	24684	(010000–	)	Bearing Replacement Kit	4
▲▲	20	79599	(010000–	)	Screw, Nylon Set	2
▲	21	04746	(010000–	)	Flange, Bearing	2
	22	05605	(010000–	)	Wire, Spring, Long	1
	23	04720	(010000–	)	Spring, Compression	1
	24	04671	(010000–	)	Puck, Chain Tensioner	2
	25	05582	(010000–011044	)	Bearing, Flange	2
	26	24548	(010000–011044	)	Arm Kit, Chain Tensioner	2
	27	47277	(010962–	)	Chain, Static	1
	28	05604	(010000–	)	Wire, Spring, Short	1
	29	04721	(010000–	)	Sprocket	1
	30	40678–1	(010000–	)	Clamp, Cable	1
	31	24552	(011045–	)	Plate, Motor Mounting	1
	32	15877	(011045–	)	Bearing, Flange	2
	33	24547	(011045–	)	Arm, Chain Tensioner	2
	34	24555	(011045–	)	E-Ring, External	2

Fig. 13 – Solution and Recovery Tanks Group

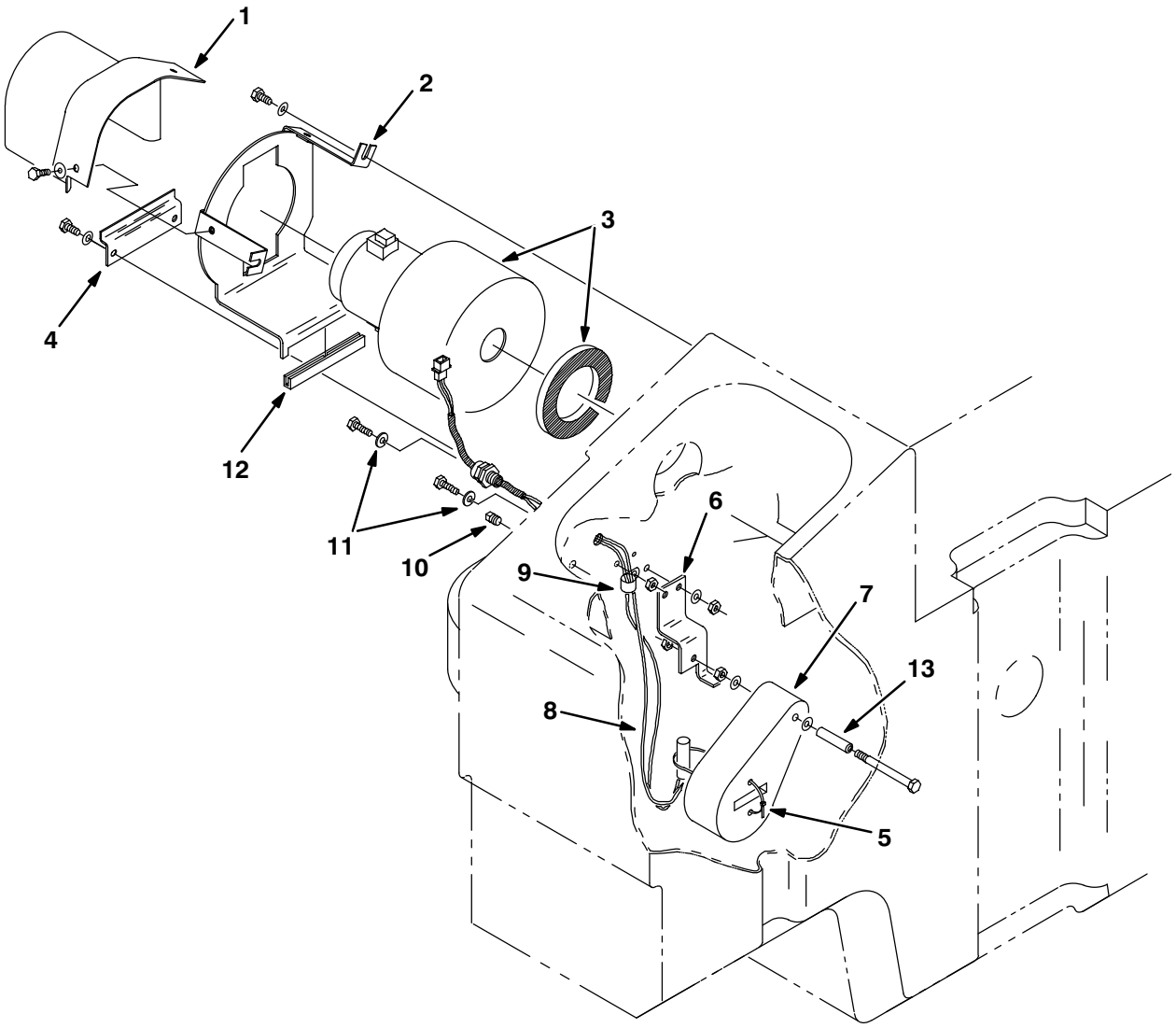


04799/04196

Fig. 13 – Solution and Recovery Tanks Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	65552	(010000–012380	)	Baffle Kit	1
1	65551	(012381–	)	Plate, Baffle	1
2	05014	(010000–	)	Tank, Solution	1
3	222396	(010000–	)	Stopper Assembly	2
4	11746	(010000–	)	Baffle, Tank	1
5	22297	(010000–	)	Clamp, Worm Drive	3
6	05216	(010000–	)	Hose, Squeegee	1
7	06137	(010000–	)	Cover, Recovery Tank	1
8	05015	(010000–	)	Tank, Recovery	1
9	05127	(010000–	)	Hose, Drain	2
10	67004	(010000–010894	)	Clip, Finger Grip	2
11	33344	(010000–	)	Clamp, Worm Drive	1
12	65566	(010000–	)	Fitting, Straight	3
13	75611	(010000–	)	Fitting, Plug	2
14	05675	(010000–	)	Pad, Tank	2
15	11750	(010000–	)	Baffle, Vacuum Fan	1
16	69784	(010000–	)	Fitting, Nipple	1
17	05218	(010000–	)	Strainer, Solution Tank	1
18	56119	(010000–	)	Fitting, Plug	1
19	76426	(010000–	)	Washer, Sealing	3
20	05165	(010000–	)	Seal, Recovery Tank Lid	1
21	43516A	(010000–	)	Basket, Soap	1
22	04832	(010000–	)	Pad, Foam	1
23	57828	(010000–	)	Foam	2
24	04836	(010000–	)	Strap, Poly	1
25	24663	(010895–	)	Strap, Drain Hose	2
26	24638	(010895–	)	Clip, Drain Hose	2
27	05089	(010000–	)	Screen	1
28	19676	(010000–	)	Lanyard	1
29	65695	(012381–	)	Latch, Lift and Turn, Adjustable	2

Fig. 14 – Recovery Tank Float Group

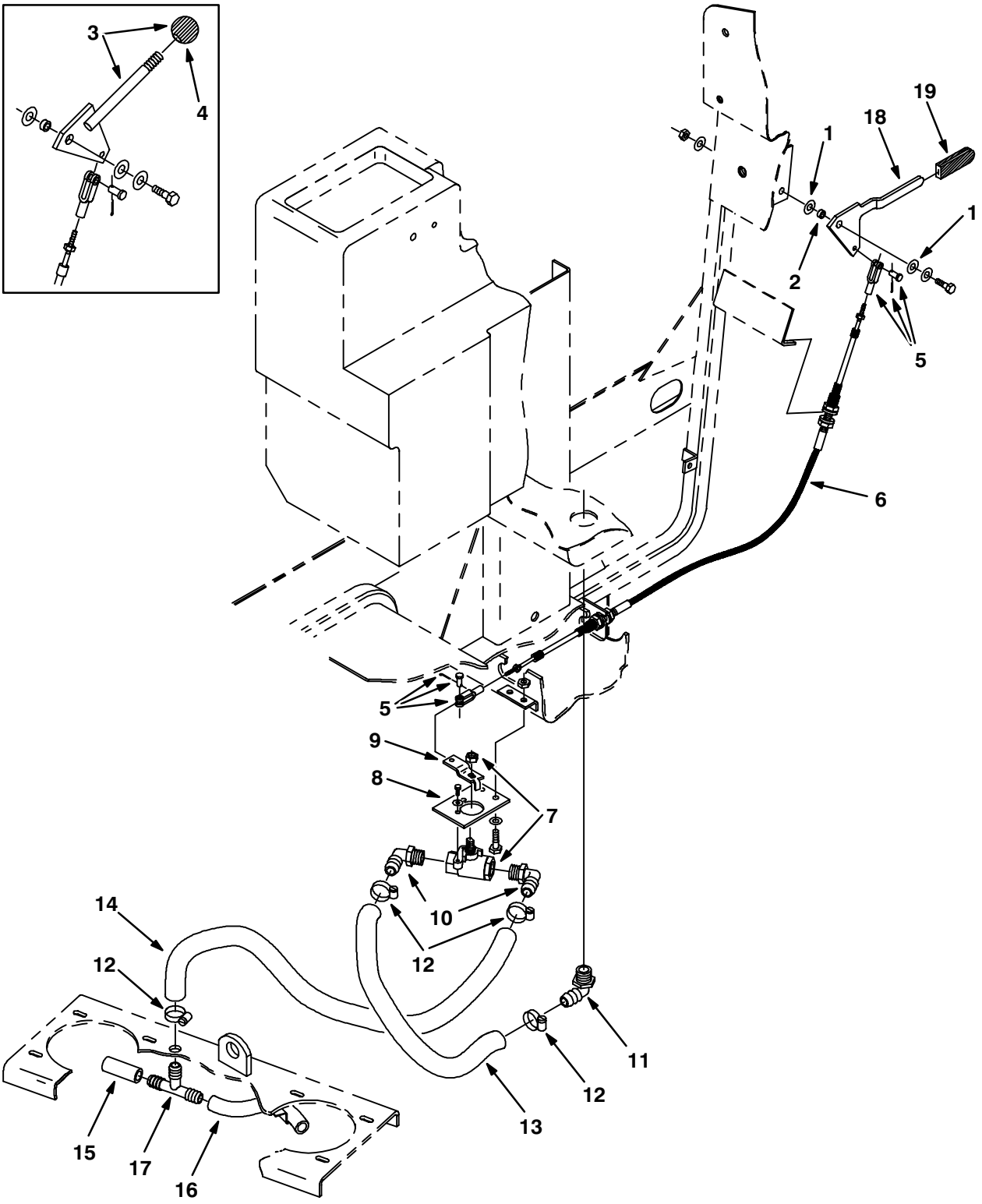


05032/04218

Fig. 14 – Recovery Tank Float Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	10936	(010000–	)	Guard, Vacuum Fan	1
2	06174	(010000–	)	Bracket, Vacuum Fan	1
3	10914	(010000–	)	Fan, Vacuum (See Breakdowns)	1
4	06146	(010000–	)	Bracket, Mounting	1
5	49266	(010000–	)	Tie, Cable	1
6	05567	(010000–	)	Bracket, Water Level Control	1
7	65683	(010000–	)	Float, Water Level	1
8	10935	(010000–010640	)	Mercury Switch Assembly	1
8	28346	(010641–	)	Mercury Switch Assembly	1
9	33584	(010000–	)	Clamp, Cable	1
10	56119	(010000–	)	Fitting, Plug	1
11	76426	(010000–	)	Washer, Sealing	3
12	10911	(010000–	)	Isolator, Vacuum Fan	1
13	78551	(010000–	)	Tube	1

Fig. 15 – Solution Control Group

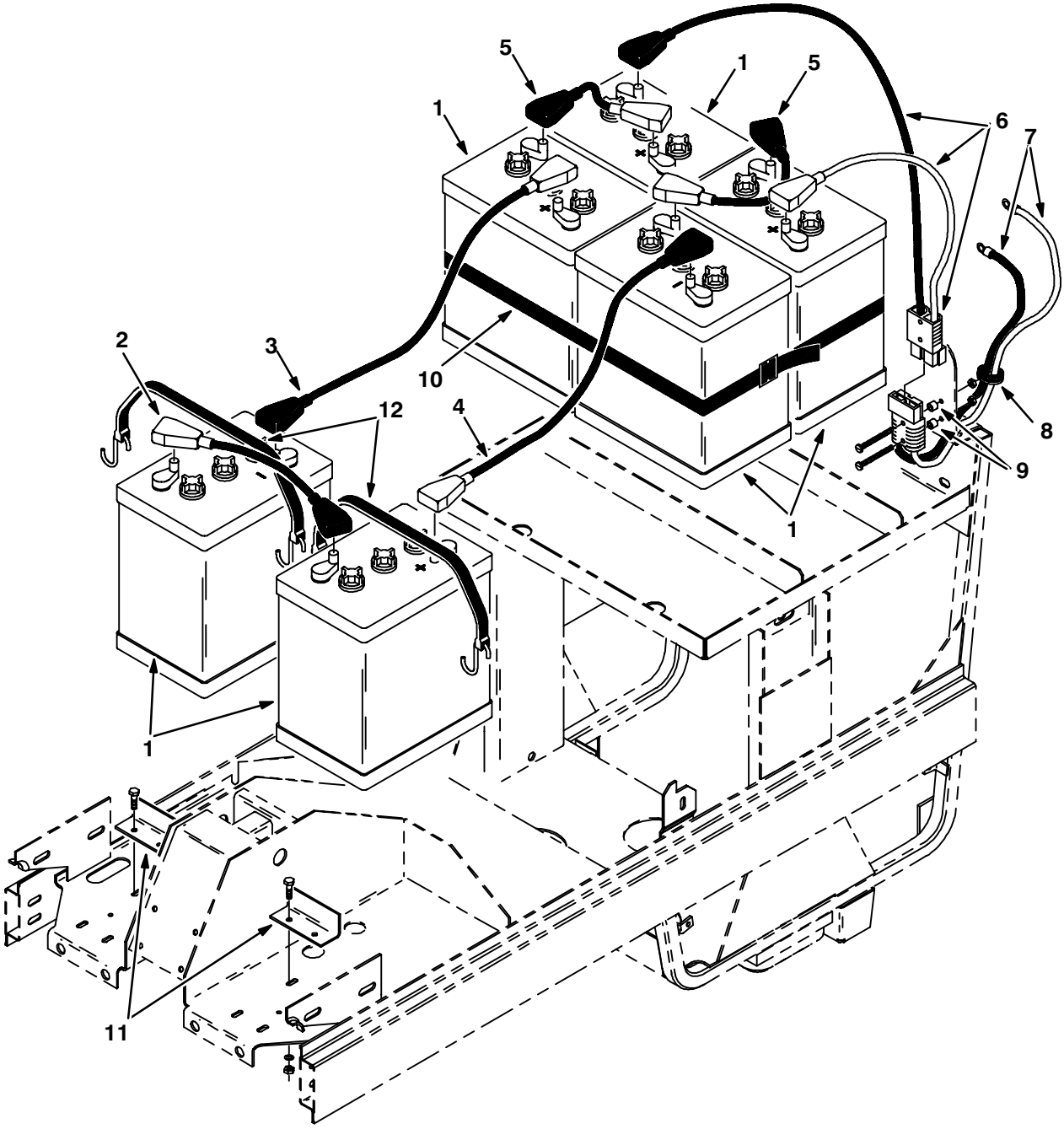


05036/04198

Fig. 15 – Solution Control Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	43611	(010000–)	Washer, Nylon	2
2	63342	(010000–)	Sleeve	1
3	33441	(010000–010640)	Water Handle Kit	1
4	26565	(010000–010640)	Knob	1
5	27880	(010000–)	Yoke Assembly	2
6	05670	(010000–)	Cable, Push Pull	1
7	12083	(010000–)	Water, Valve	1
8	05294	(010000–)	Bracket, Valve Mounting	1
9	05669	(010000–)	Arm, Water Valve	1
10	63244–1	(010000–)	Fitting, Barbed Elbow	2
11	63244–3	(010000–)	Fitting, Barbed Elbow	1
12	54333	(010000–)	Clamp, Worm Drive	4
13	05714	(010000–)	Hose, PVC	1
14	05712	(010000–)	Hose, Clear Vinyl	1
15	05711	(010000–)	Hose, Clear Vinyl	1
16	05715	(010000–)	Hose, Clear Vinyl	1
17	63245–1	(010000–)	Fitting, Barbed Tee	1
18	33438	(010641–)	Lever, Control	1
19	33439	(010641–)	Grip, Handle	1

Fig. 16 – Battery Group

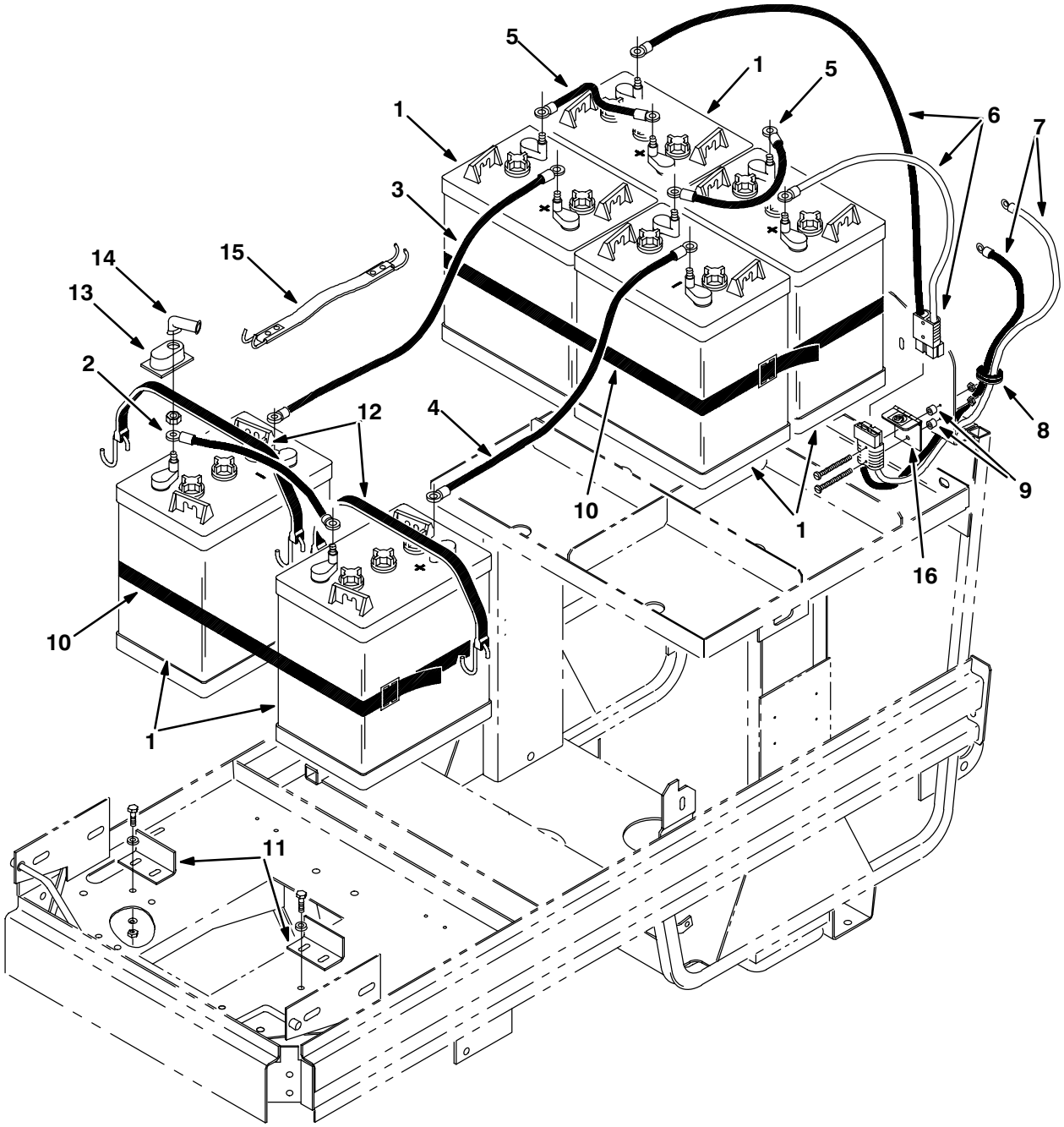


04783/04201

Fig. 16 – Battery Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11230	(010000–010422)	Battery, 6 V, Wet (Replaced by 10155)	6
1	11229	(010000–010422)	Battery, 6 V, Dry (International Only)	6
2	05251	(010000–010422)	Cable, Battery	1
3	63757	(010000–010422)	Cable, Battery	1
4	05252	(010000–010422)	Cable, Battery	1
5	63755	(010000–010422)	Cable, Battery	2
6	05671	(010000–010422)	Cable, Battery	1
7	05672	(010000–010422)	Cable, Battery	1
8	10632	(010000–010422)	Grommet, Rubber	1
9	65742	(010000–010422)	Sleeve	2
10	04836	(010000–010422)	Strap, Poly, Webbing	1
11	04684	(010000–010422)	Angle, Battery Stop	2
12	33671	(010000–010422)	Strap, Rubber, Tie–down	2

Fig. 17 – Battery Group

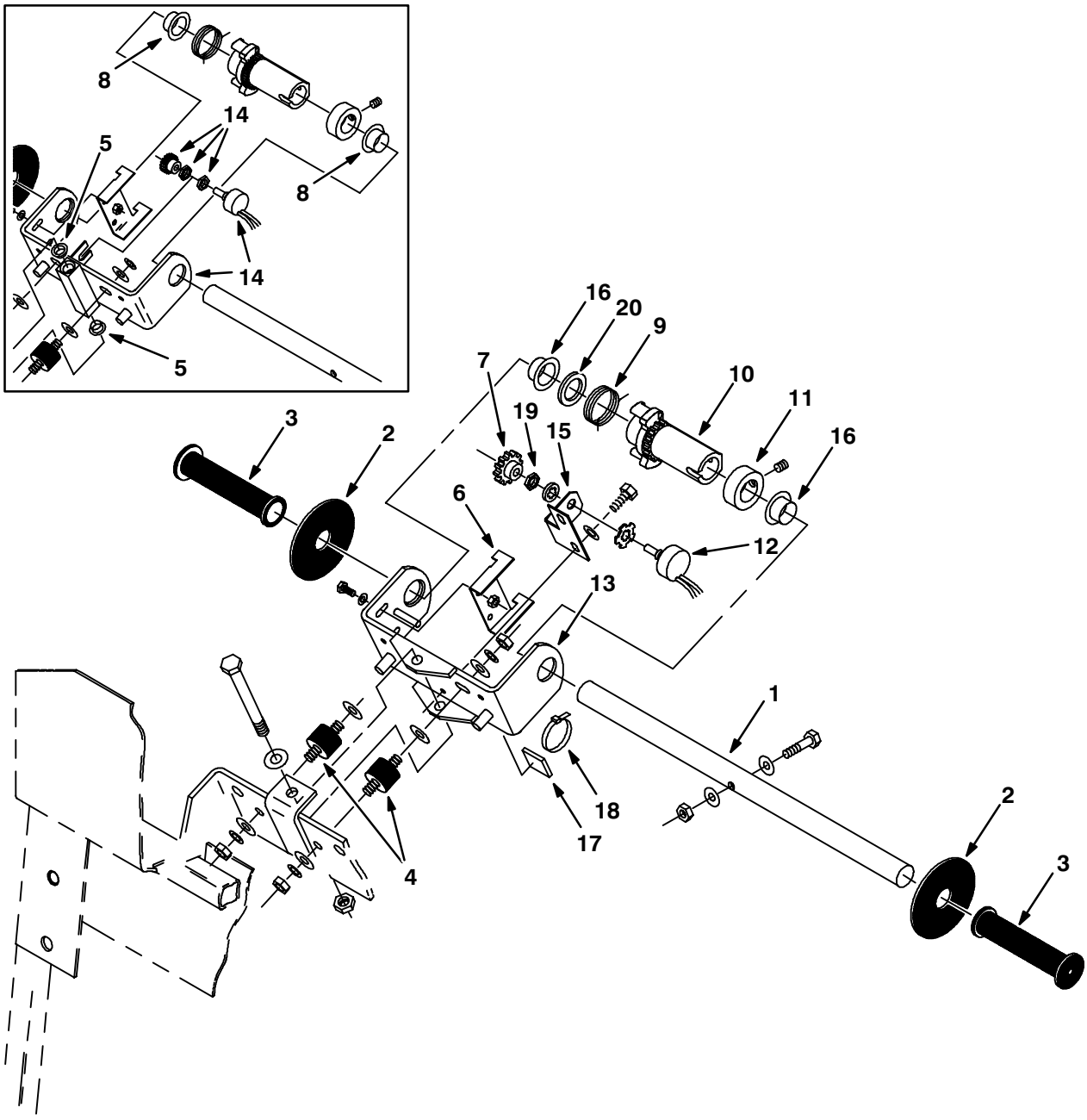


06144/06153

Fig. 17 – Battery Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	10155	(010423–	)	Battery, 6 V, Wet	6
1	11229	(010423–	)	Battery, 6 V, Dry (International Only)	6
2	28333	(010423–	)	Cable, Battery	1
3	28334	(010423–	)	Cable, Battery	1
4	28335	(010423–	)	Cable, Battery	1
5	63740	(010423–	)	Cable, Battery	2
6	28332	(010423–	)	Cable, Battery	1
7	05672	(010423–	)	Cable, Battery	1
8	10632	(010423–	)	Grommet, Rubber	1
9	65742	(010423–	)	Sleeve	2
10	04836	(010423–	)	Strap, Poly, Webbing	2
11	04684	(010423–010961	)	Angle, Battery Stop	2
11	24843	(010962–	)	Angle, Battery Stop	2
12	33671	(010423–	)	Strap, Rubber, Tie–down	2
13	45962	(010423–	)	Cover, Terminal	12
14	02076	(010423–	)	Cover, Terminal	12
15	28286	(010423–	)	Strap, Battery Lift	1
16	65744	(010423–	)	Hinge, W/Label, SB50	1

Fig. 18 – Steering Control Group

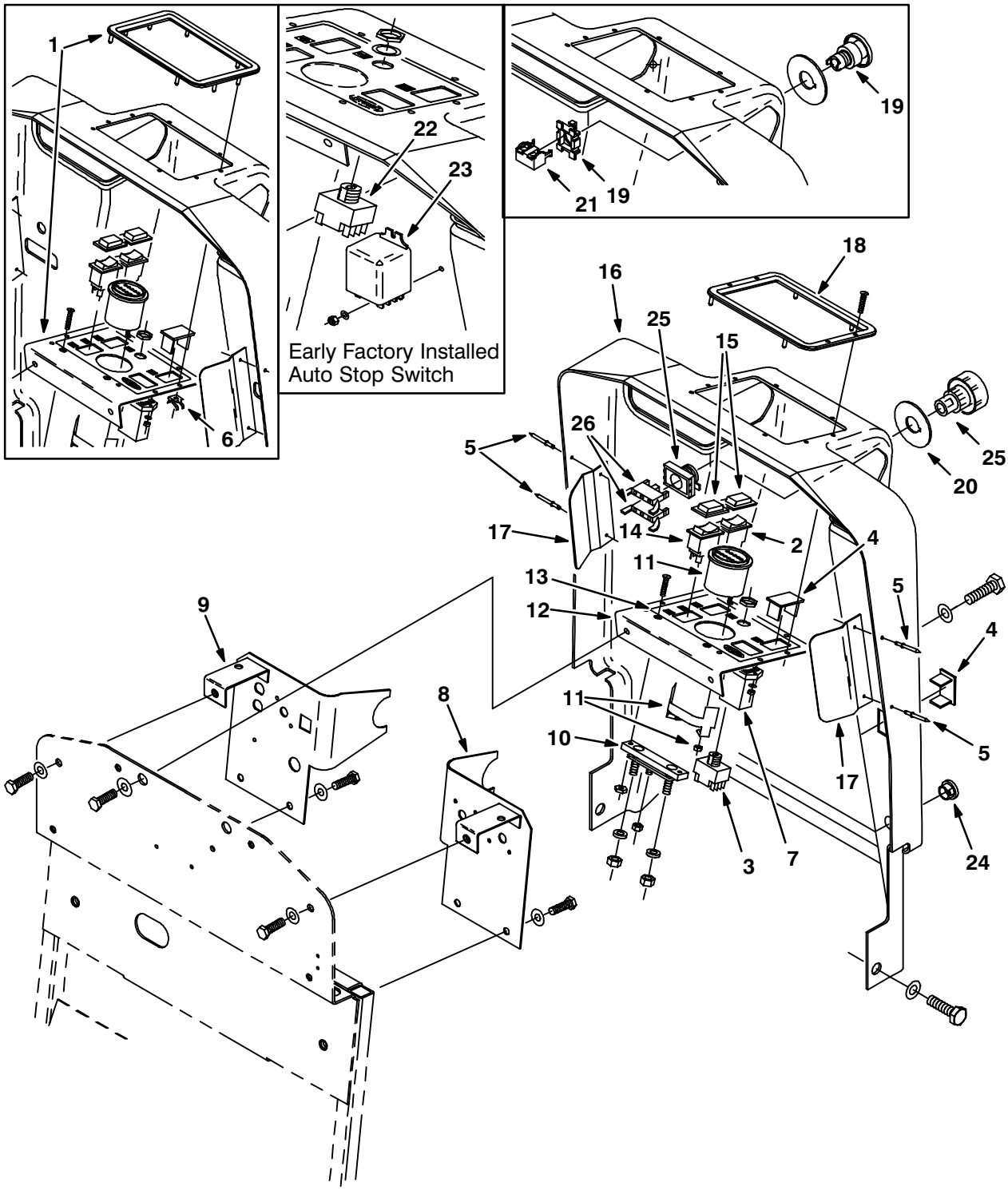


04797/04195

Fig. 18 – Steering Control Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04760	(010000–)	Handle, Speed Control	1
2	06208	(010000–)	Washer, Neoprene	2
3	04765	(010000–)	Grip, Handle	2
4	05611	(010000–)	Isolator, Vibration	2
5	05582	(010000–010346)	Bearing, Flange	2
6	04767	(010000–)	Stop, Spring	1
7	27974	(010347–)	Gear	1
8	04761	(010000–010346)	Bearing, Flange	2
9	04762	(010000–)	Spring, Torsion Centering	1
10	04763	(010000–)	Hub and Gear	1
11	04766	(010000–)	Collar, Shaft	1
12	27955	(010347–)	Potentiometer Replacement Kit	1
13	27934	(010347–)	Bracket, Handle	1
14	27971	(010000–010346)	Potentiometer Replacement Kit	1
15	27973	(010347–)	Bracket, Potentiometer	1
16	27937	(010347–)	Bearing, Flange	2
17	55248	(010000–)	Mount, Cable Tie	1
18	49266	(010000–)	Tie, Cable	1
19	86730	(010347–)	Nut, Hex, Thin	1
20	82226	(010000–)	Washer	1

Fig. 19 – Rear Electric Panel Group

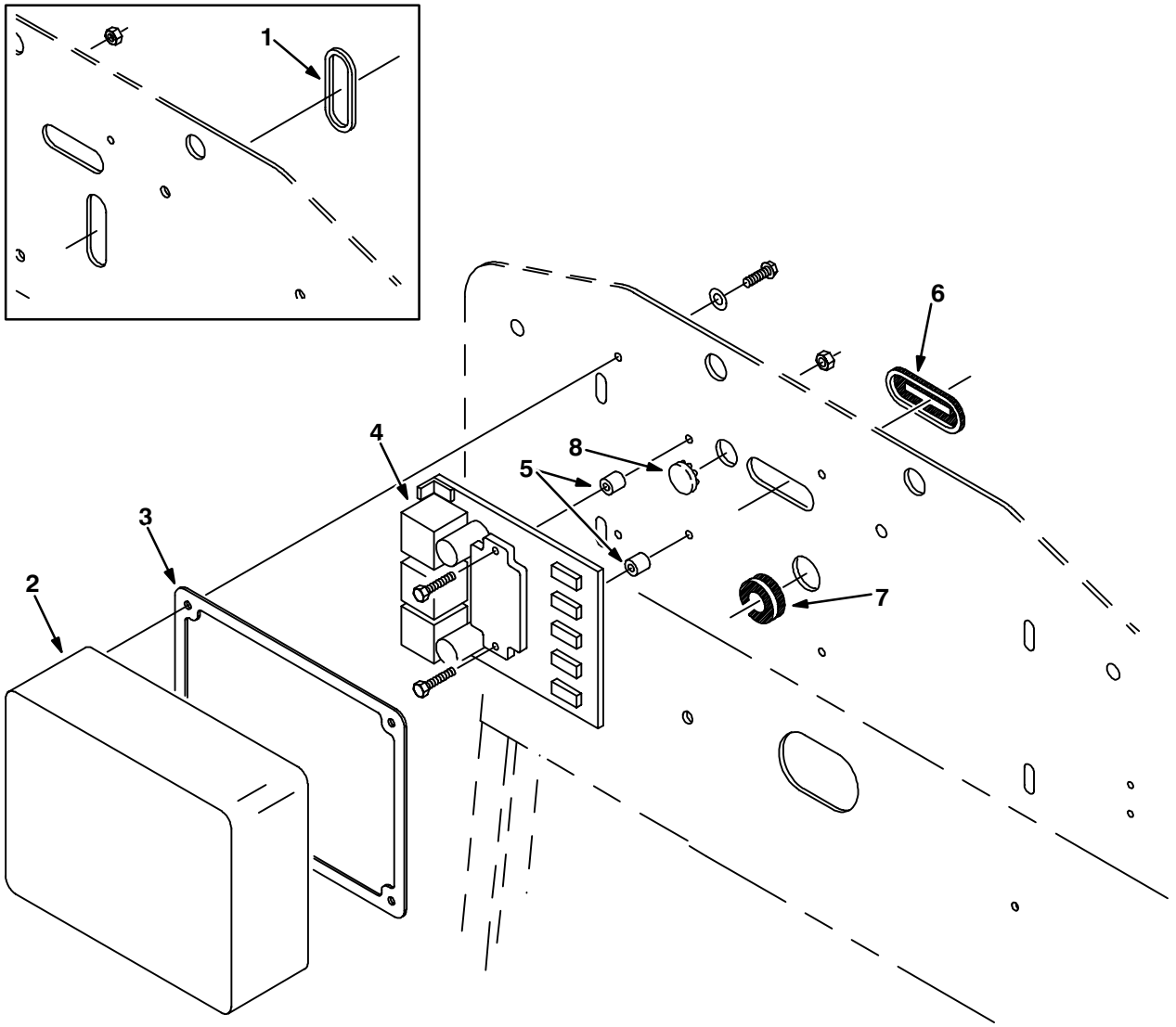


05075/04222

Fig. 19 – Rear Electric Panel Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	33511	(010000–010890	)	Instrument Panel and Bezel Kit	1
	2	65554	(010000–	)	Switch, Progressive Rocker	1
∇	3	31203	(010000–	)	Switch Assembly, Key	1
▲		31204	(010000–	)	Key, Switch	1
	4	57772	(010000–	)	Plate, Cover	2
	5	56799	(010000–	)	Rivet, Pop	4
	6	05280	(010000–010890	)	Clip, Stud, Receiver Speed	8
	7	31988	(010000–	)	Hourmeter	1
	8	04957	(010000–	)	Plate, Circuit Breaker Mounting	1
	9	28416	(010000–	)	Plate, Circuit Breaker Mounting	1
	10	10973	(010000–	)	Shunt	1
	11	11488	(010000–	)	Brush Pressure/Battery Gauge	1
	12	33501	(010891–	)	Panel, Instrument	1
	13	10960	(010000–	)	Label, Instrument Panel	1
	14	65559	(010000–	)	Switch, Rocker, DPDT	1
	15	57807	(010000–	)	Cover, Rocker Switch Seal	2
	16	65597	(010000–	)	Panel and Label Assembly, Rear	1
	17	05027	(010000–	)	Guide, Cover, Rear	2
	18	33492	(010891–	)	Bezel, Touch Panel	1
	19	28429	(010000–012618	)	Switch, Push Button	1
	20	28428	(010000–	)	Plate, Stop Button	1
	21	11608	(010000–012618	)	Contacts, Switch	2
∇	22	11651	(010000–010849	)	Switch Assembly	1
▲		31204	(010000–010849	)	Key, Switch	1
	23	87284	(010000–010849	)	Relay,DPDT	1
	24	65584	(010000–	)	Plugbuuton	1
	25	65664	(012619–	)	Switch, Push Button	1
	26	65665	(012619–	)	Contacts, Switch	2

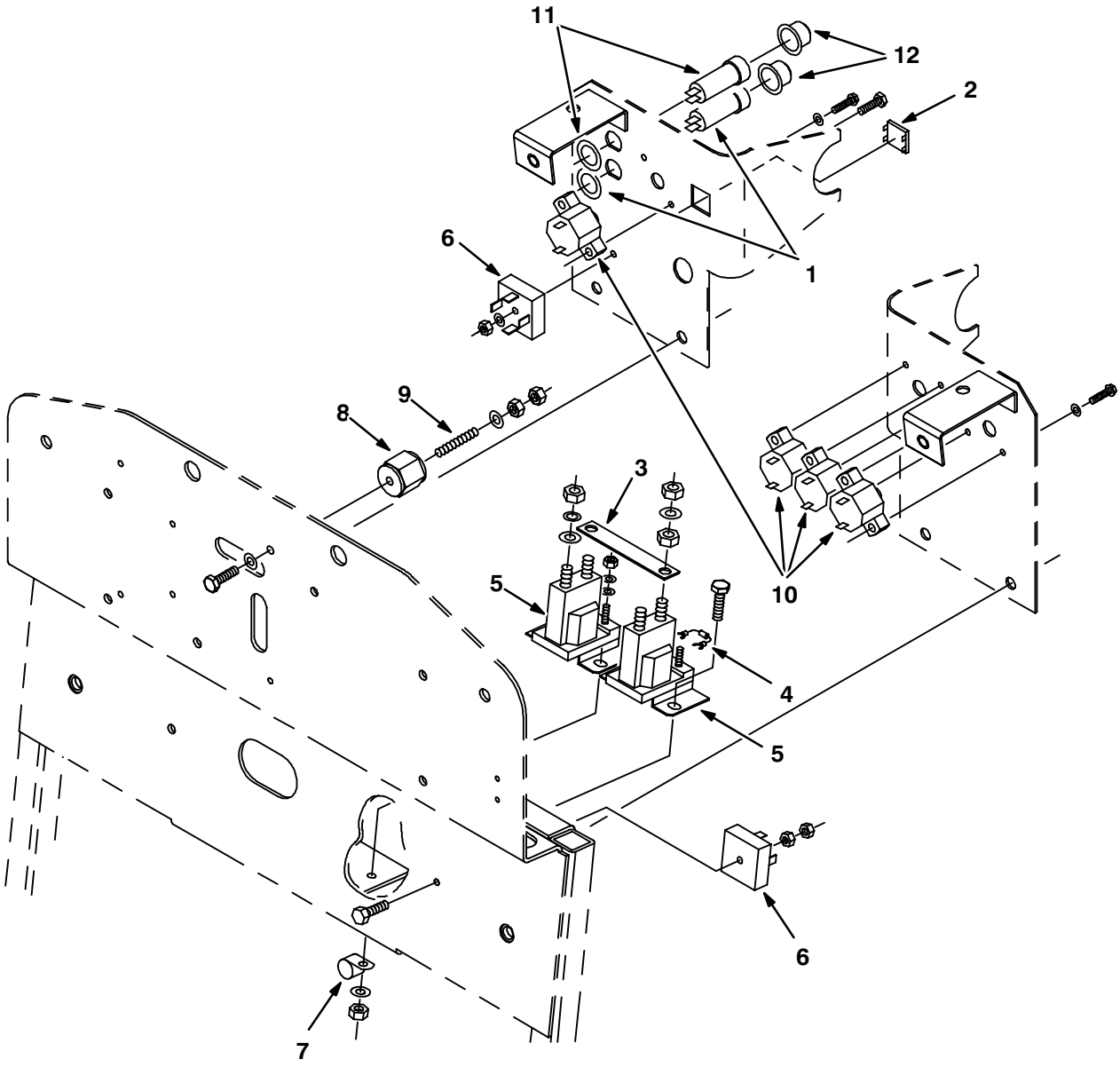
Fig. 20 – Electrical Controller Group



05047/04779

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11708	(010000–010201)	Grommet, Flexible	1
2	11713	(010000–)	Cover and Label Assembly, Circuit Board	1
3	11341	(010000–)	Gasket, Controller	1
4	27963	(010000–)	Controller Kit, Single	1
5	65742	(010000–)	Sleeve	2
6	27928	(010202–)	Grommet, Ribbon Cable	1
7	10632–9	(010202–)	Grommet	1
8	57167	(010202–)	Plugbutton	1

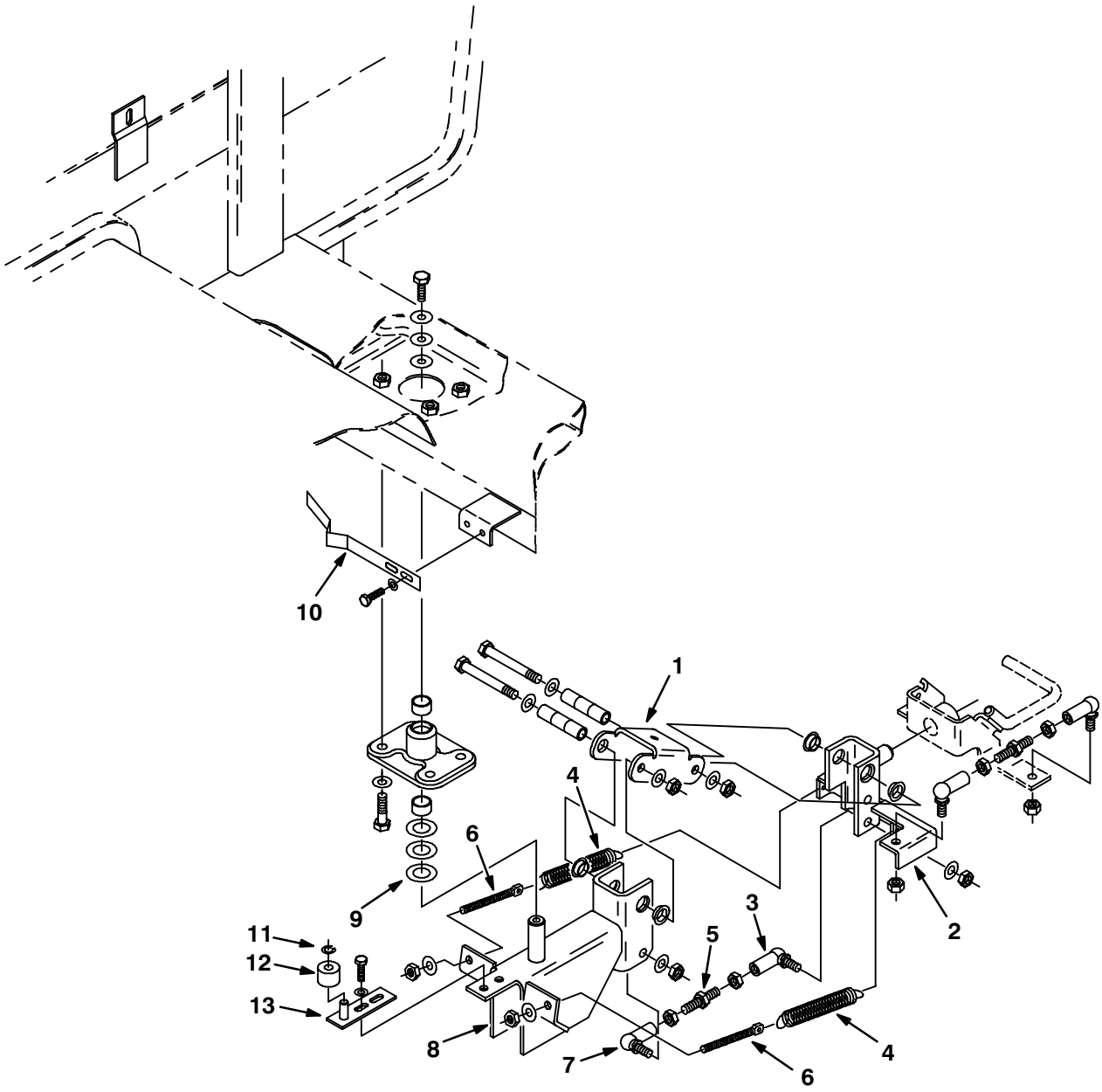
Fig. 21 – Rear Electrical Group



05049/04778

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	57164	(010000–	)	Breaker, Circuit, 10 A	1
2	28426	(010912–	)	Plugbutton	1
3	10967	(010000–	)	Busbar, Relay	1
4	32234	(010000–	)	Diode Assembly	1
5	04685	(010000–	)	Contactor, SPST	2
6	10962	(010000–	)	Diode, Bridge,12 A	2
7	26395–1	(010000–	)	Clamp, Cable	1
8	76062	(010000–	)	Insulator, Panel and Switch Board	1
9	41702	(010000–	)	Rod, Threaded	1
10	27967	(010000–	)	Breaker, Circuit, 20 A	4
11	87977	(010000–	)	Breaker, Circuit, 7 A	1
12	57751	(010000–	)	Boot, Circuit Breaker	2

Fig. 22 – Rear Squeegee Link Group

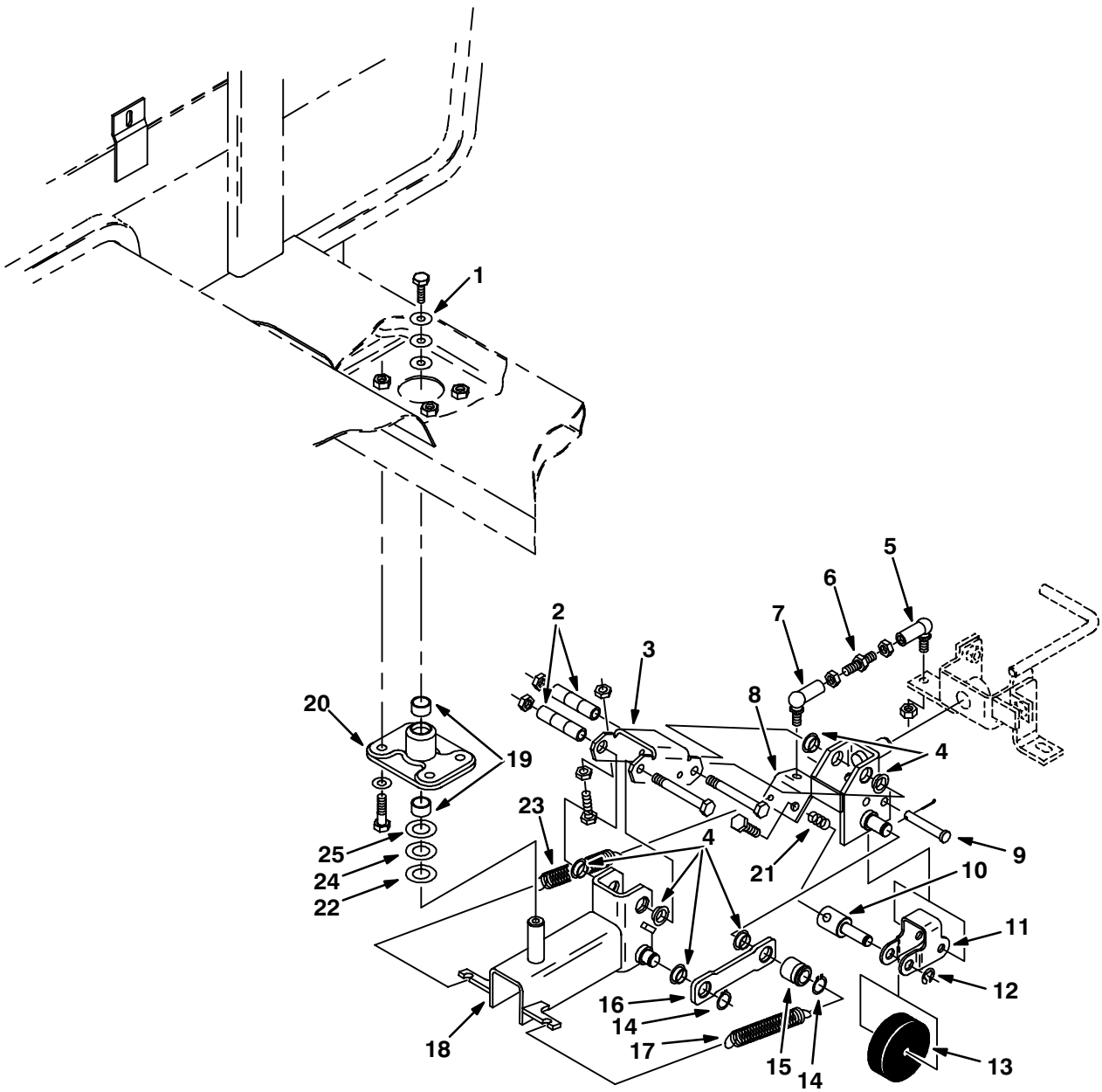


04793/04219

Fig. 22 – Rear Squeegee Link Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	10950	(010000–010215)	Bracket, Squeegee Lift	1
2	10946	(010000–010215)	Bracket, Squeegee Lift	1
3	05291	(010000–010215)	Rod End, M10, L.H	1
4	33404	(010000–010215)	Spring, Tension	2
5	04869	(010000–010215)	Stud, Adjustable	1
6	32536	(010000–010215)	Bolt, Eye	2
7	05290	(010000–010215)	Rod End, M10, R.H.	1
8	10949	(010000–010215)	Bracket, Squeegee Pivot (Replaced by 33397)	1
9	40847–3	(010000–010215)	Shim	–
10	63212	(010000–010518)	Spring, Squeegee Centering	1
11	23514–1	(010000–010518)	Ring, Retaining	1
12	63878	(010000–010518)	Roller	1
13	11679	(010000–010518)	Bracket, Roller	1

Fig. 23 – Rear Squeegee Link Group

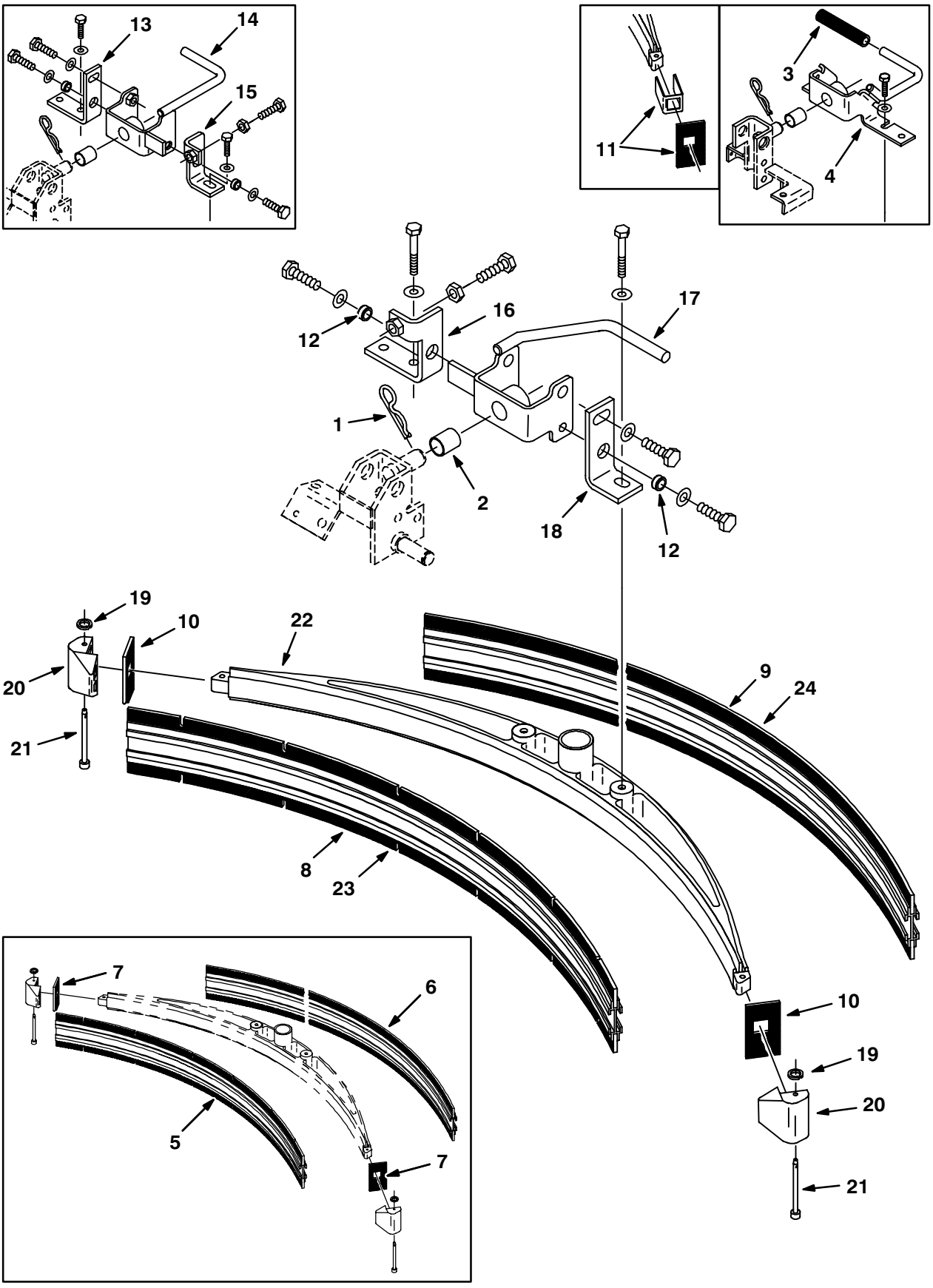


05484/04219

Fig. 23 – Rear Squeegee Link Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	05624	(010000–	)	Washer	1
2	05145	(010000–	)	Sleeve, Squeegee Lift	2
3	33385	(010216–	)	Bracket, Squeegee Lift	1
4	04843	(010000–	)	Bearing, Flange	6
5	63282	(010000–	)	Ball Joint, R.H.	1
6	11676	(010000–	)	Stud, Adjustment	1
7	82962	(010000–	)	Ball Joint, L.H.	1
8	33365	(010216–	)	Bracket, Squeegee Lift	1
9	33355	(010216–	)	Pin, Clevis	1
10	33379	(010216–	)	Axle, Caster Adjustment	1
11	33499	(010216–	)	Bracket, Caster	1
12	05284	(010216–	)	Clip, Retainer	1
13	86800	(010216–	)	Wheel	1
14	33373	(010216–	)	Ring, Retainer	2
15	33358	(010216–	)	Retainer, Spring	2
16	33371	(010216–	)	Link, Connecting	1
17	33404	(010216–	)	Spring, Tension	1
18	33390	(010216–	)	Bracket, Squeegee, Pivot	1
19	64377	(010000–	)	Bearing, Journal	2
20	05099	(010000–	)	Flange, Squeegee Mounting	1
21	33498	(010216–	)	Spring	1
22	64489	(010216–	)	Washer	–
23	33372	(010216–	)	Spring, Tension	1
24	40847–1	(010000–	)	Shim	–
25	04846	(010000–	)	Washer, Thrust	1

Fig. 24 – Rear Squeegee Group



04795/04220

Fig. 24 – Rear Squeegee Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	55094	(010000–	)	Pin, Hair Cotter	1
	2	04844	(010000–	)	Bearing, Journal	1
	3	11372	(010000–010215	)	Tube, Rubber	1
	4	10956	(010000–010215	)	Bracket, Squeegee Pivot	1
∇		11484	(010000–010734	)	Squeegee Blade Kit, Short	1
▲	5	04894	(010000–010734	)	Squeegee Blade Assembly, Front	1
▲	6	04898	(010000–010734	)	Squeegee Blade Assembly, Rear	1
▲	7	33437	(010000–010734	)	Blade, Squeegee End	2
∇		24686	(010735–	)	Squeegee Blade Kit, Long	1
▲	8	33357	(010735–	)	Squeegee Blade Assembly, Front	1
▲	9	33352	(010735–	)	Squeegee Blade Assembly, Rear	1
▲	10	11283	(010735–	)	Blade, Squeegee End	2
	11	27952	(010000–010518	)	Squeegee End Replacement Kit (For both sides)	1
	12	33369	(010216–	)	Sleeve, Squeegee	2
	13	33378	(010216–011044	)	Bracket, Adjuster, R.H.	1
	14	33393	(010216–011044	)	Bracket, Squeegee Mounting	1
	15	33377	(010216–011044	)	Bracket, Adjuster, L.H.	1
	16	04819	(011045–	)	Bracket, Adjuster, R.H.	1
	17	04816	(011045–	)	Bracket, Squeegee Mounting	1
	18	04808	(011045–	)	Bracket, Adjuster, L.H.	1
	19	49708	(010000–	)	Ring, Split	2
	20	04752	(010000–	)	Bumper, Squeegee	2
	21	33403	(010000–	)	Pin, Clevis	2
	22	24589	(010000–	)	Body, Squeegee	1
	23	78544	(010735–	)	Squeegee Blade Assembly, Front, Urethane	1
	24	78545	(010735–	)	Squeegee Blade Assembly, Rear, Urethane	1

Fig. 25 – Wire Harness Group

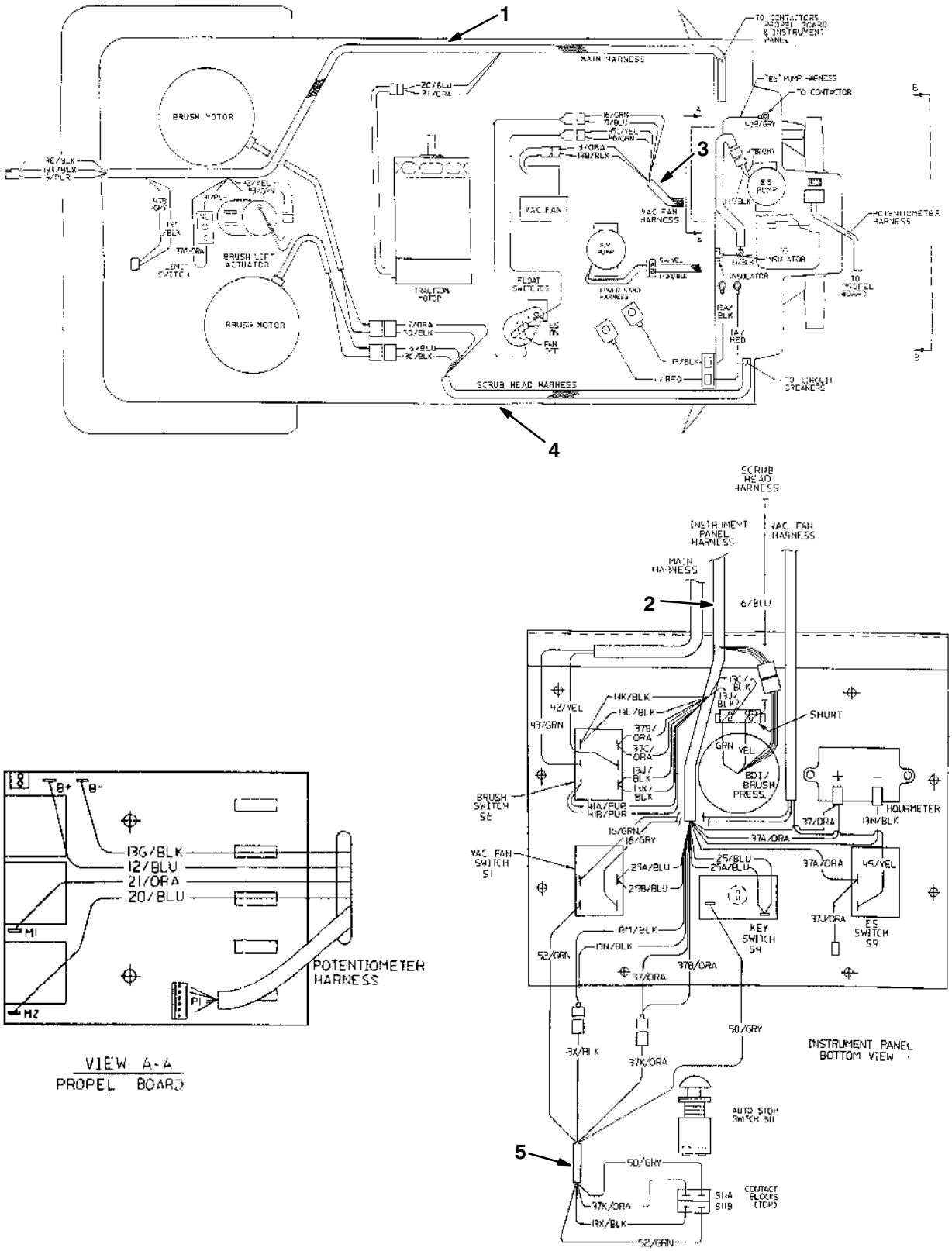
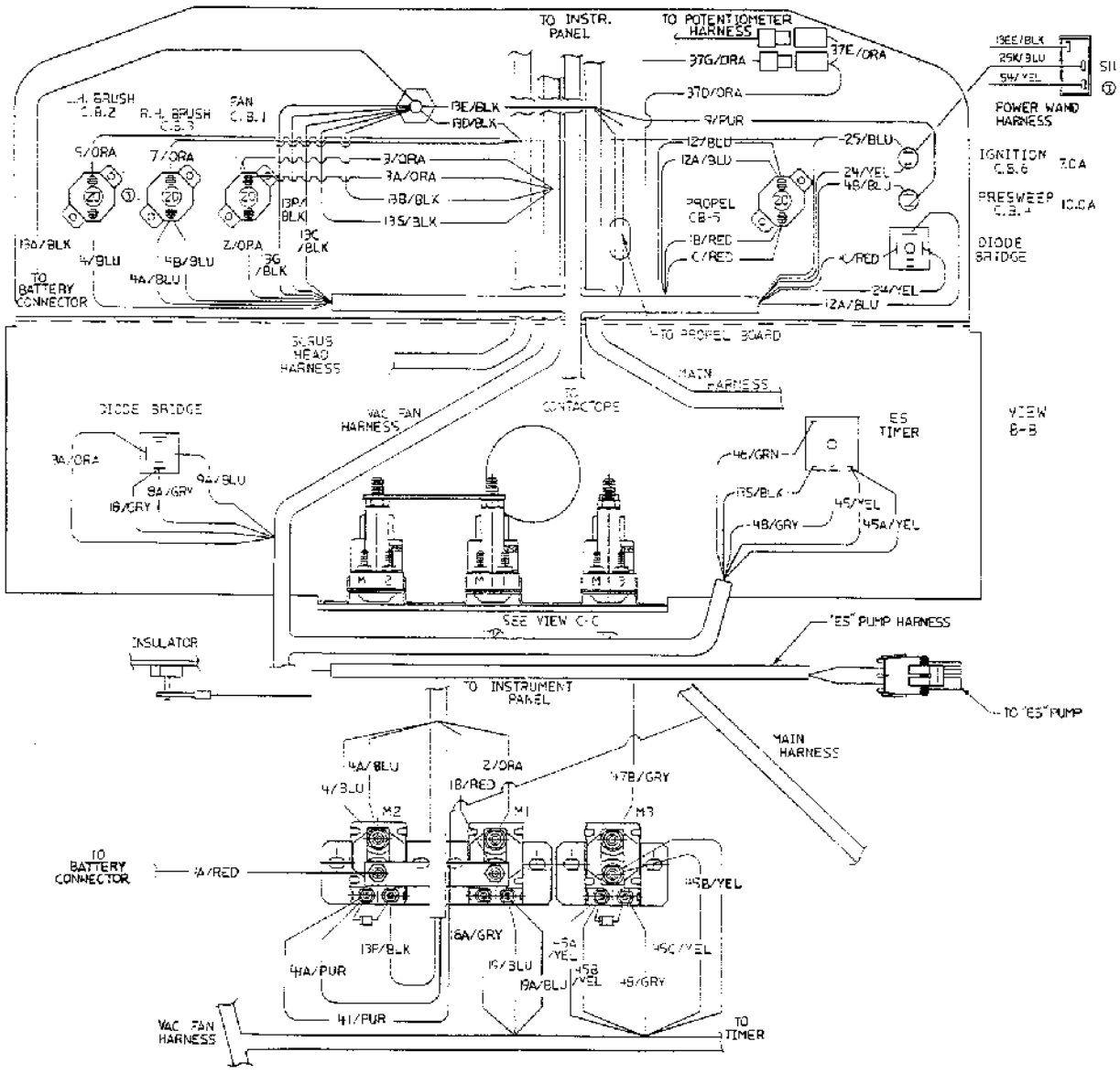


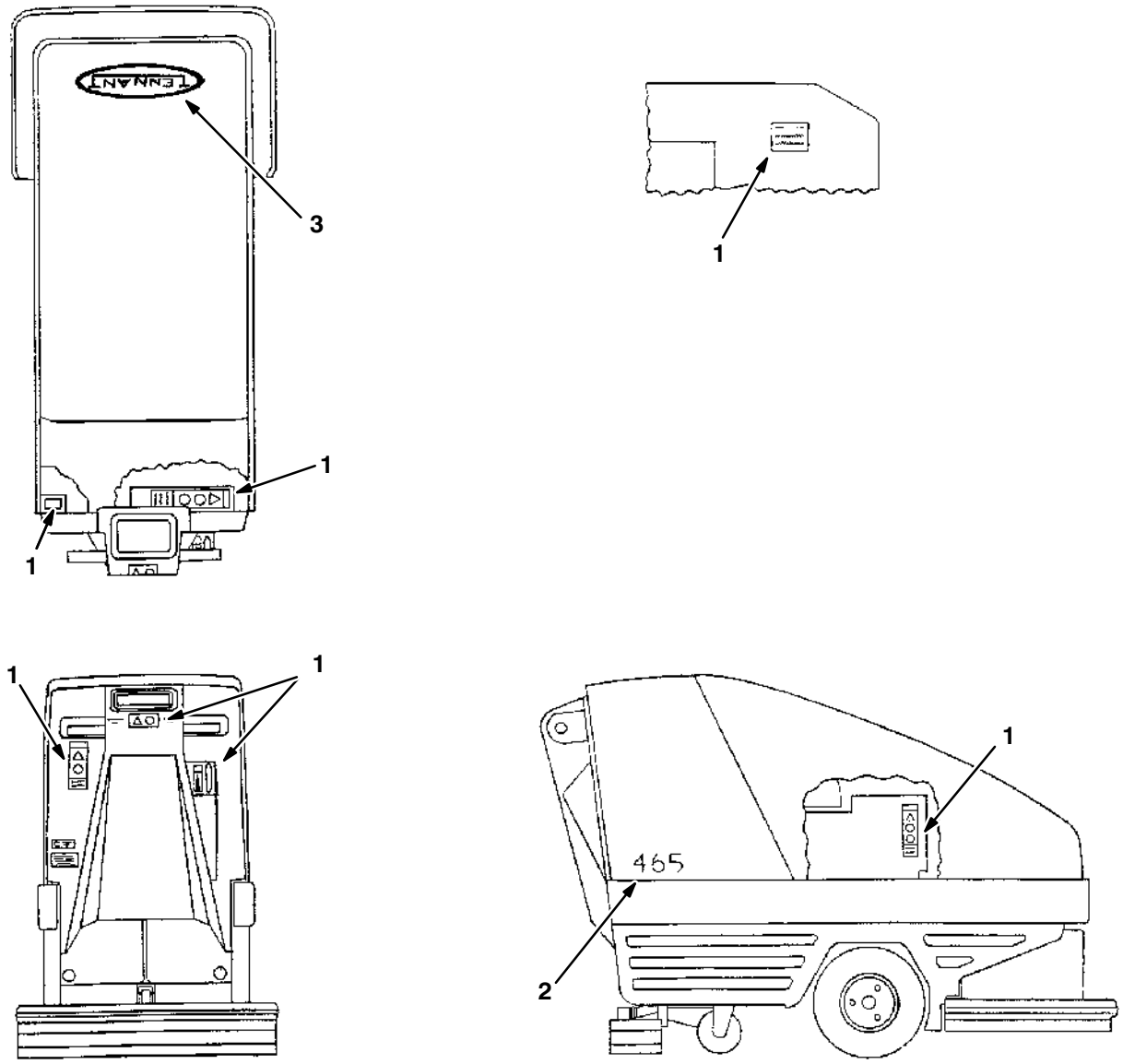
Fig. 25 – Wire Harness Group



05210/05209

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	10940	(010000–	)	Harness, Wire, Main	1
2	10938	(010000–	)	Harness, Wire, Instrument Panel	1
3	28349	(010000–010640	)	Harness Replacment Kit, Vacuum Fan	1
3	28348	(010641–	)	Harness, Wire, Vacuum Fan	1
4	10939	(010000–	)	Harness, Wire, Scrub Head	1
5	65696	(010850–	)	Harness, Wire, Switch	1

Fig. 26 – Label Group



05099/05098

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11541	(010000–)	Label Set, Information and Hazard	1
2	11661	(010000–)	Label, Numerals 465	2
3	09806	(010000–)	Label, TENNANT Logo, Blue	1

SECTION 7

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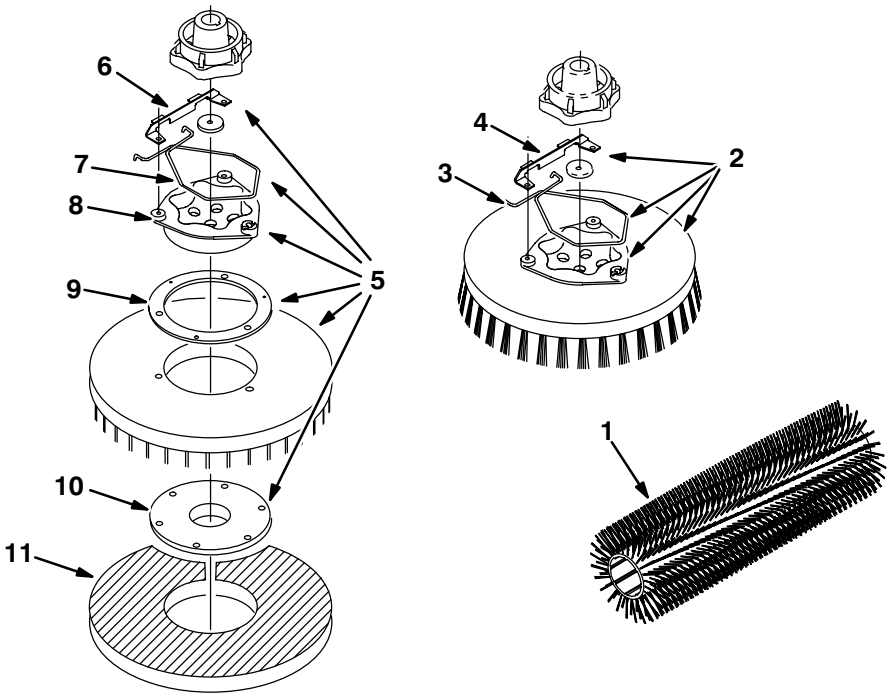
05157

Fig. 1 – Recommended General Maintenance Items

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇	11485	(020000–020744)	Squeegee Blade Kit, Short	1
▲	04916	(020000–020744)	Squeegee Blade Assembly, Front	1
▲	04919	(020000–020744)	Squeegee Blade Assembly, Rear	1
▲	33437	(020000–020744)	Blade, Squeegee End	2
∇	24687	(020745–)	Squeegee Blade Kit, Long	1
▲	33424	(020745–)	Squeegee Blade Assembly, Front	1
▲	33354	(020745–)	Squeegee Blade Assembly, Rear	1
▲	11283	(020745–)	Blade, Squeegee End	2
	78546	(020745–)	Squeegee Blade Assembly, Front, Urethane	1
	78547	(020745–)	Squeegee Blade Assembly, Rear, Urethane	1

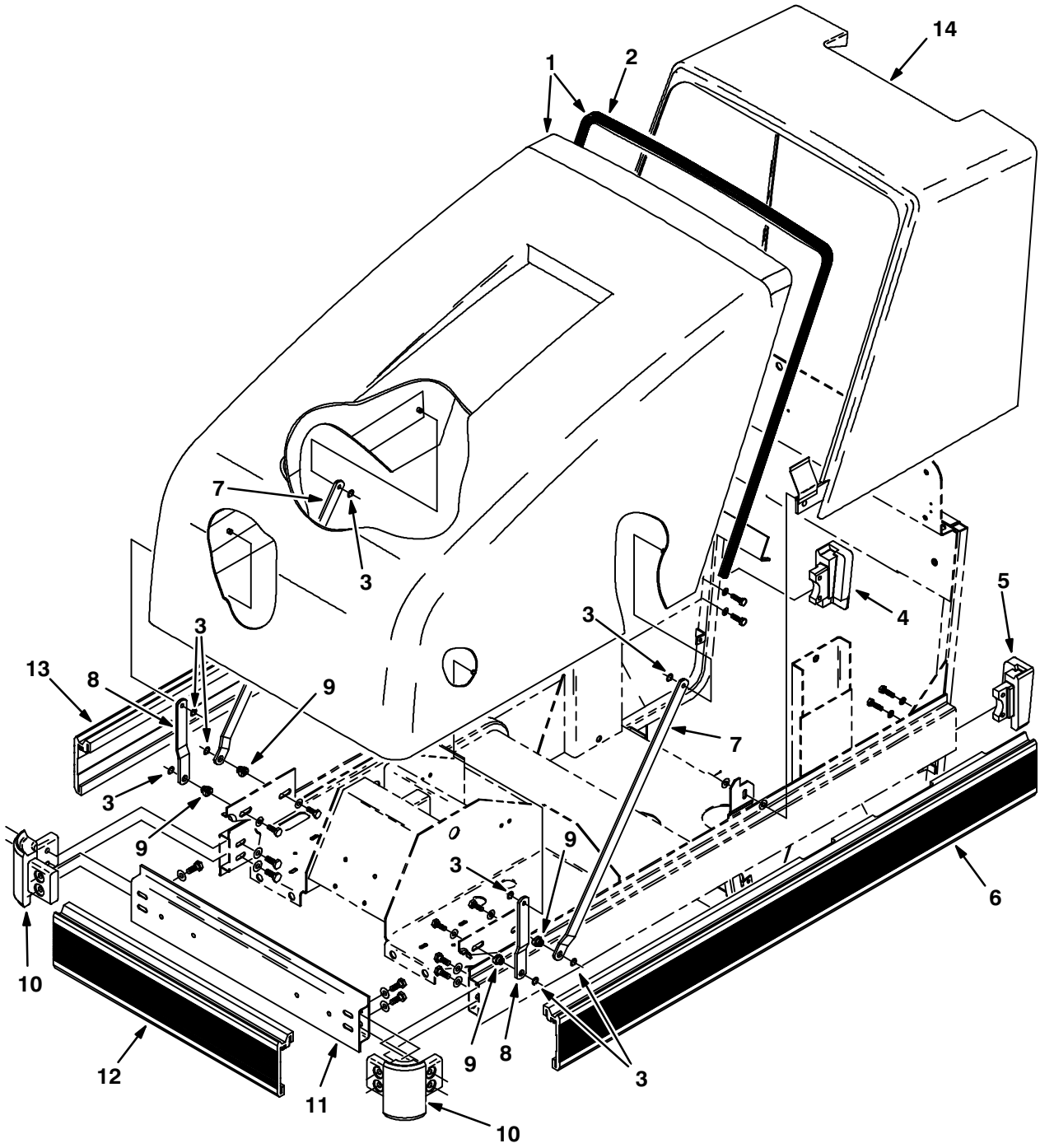
Fig. 2 – Replacement Brushes



05104/05105

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
	1	11682	(000000–)	Brush, Pre–Sweep, Polypropylene	1
∇	2	05725	(000000–)	Scrub Brush Assembly, Stiff Polypropylene	2
▲	3	14838	(000000–)	Spring, Brush Retaining	1
▲	4	24299	(000000–)	Bracket, Spring Retainer	1
∇		30241	(000000–)	Scrub Brush Assembly, Polypropylene	2
▲		14838	(000000–)	Spring, Brush, Retaining	1
▲		24299	(000000–)	Bracket, Spring, Retainer	1
∇		05724	(000000–)	Scrub Brush Assembly, Nylon	2
▲		14838	(000000–)	Spring, Brush Retaining	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇		05726	(000000–)	Scrub Brush Assembly, Abrasive	2
▲		14838	(000000–)	Spring, Brush Retaining	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇		05036	(000000–)	Scrub Brush Assembly, Bassine	1
▲		14838	(000000–)	Spring, Brush Retainer	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇		05038	(000000–)	Scrub Brush Assembly, Wire	2
▲		14838	(000000–)	Spring, Brush Retainer	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇	5	30216	(000000–)	Scrub Driver Pad Assembly, Polypropylene	2
▲	6	24299	(000000–)	Bracket, Retainer Spring	1
▲	7	14838	(000000–)	Spring, Brush Retaining	1
▲	8	15539	(000000–)	Adaptor, Brush	1
▲	9	11218	(000000–)	Spacer, Pad Holder	1
▲	10	19783	(000000–)	Holder, Pad	1
	11	63248–1	(000000–)	Pad, Stripper, Brown	2
		63248–2	(000000–)	Pad, Scrubber, Blue	2
		63248–3	(000000–)	Pad, Buffer, Red	2
		63248–4	(000000–)	Pad, Polish, White	2

Fig. 3 – Hood and Bumper Group

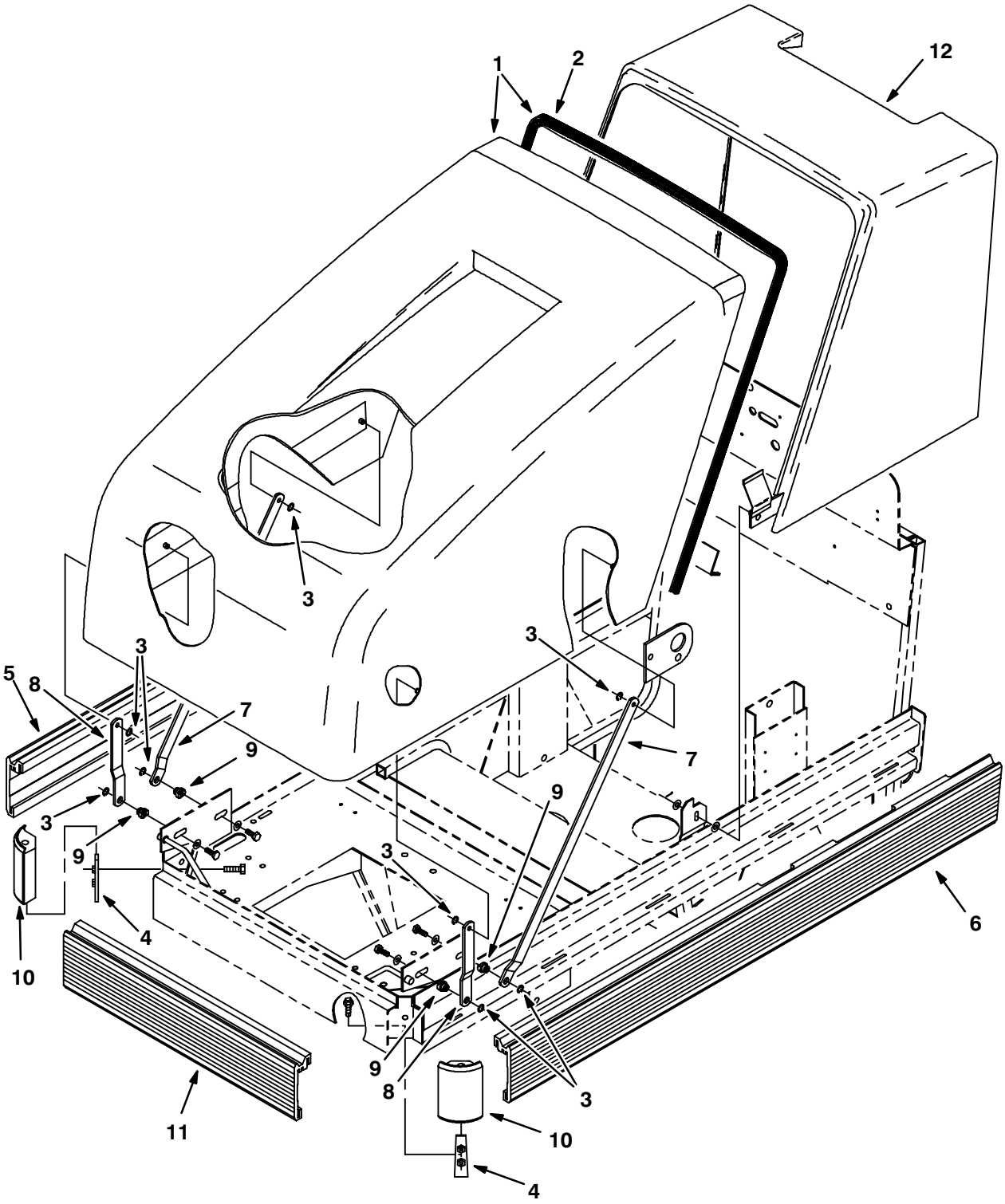


05055/04227

Fig. 3 – Hood and Bumper Group

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇	1	05044	(020000–021045)	Cover, Front	1
▲	2	33360	(020000–021045)	Seal	1
	3	05284	(020000–021045)	Clip, Retainer, M10	8
	4	10987	(020000–021045)	Corner Block, Frame, R.H.	1
	5	10988	(020000–021045)	Corner Block, Frame, L.H.	1
	6	05070	(020000–021045)	Bumper, Side, L.H.	1
	7	05236	(020000–021045)	Bar, Hinge Long	2
	8	05223	(020000–021045)	Bar, Hinge Short	2
	9	05272	(020000–021045)	Spacer, Hinge	4
	10	04945	(020000–021045)	Block Assembly, Corner Frame	2
	11	04944	(020000–021045)	Channel, Frame Nose	1
	12	05073	(020000–021045)	Bumper, Front	1
	13	05276	(020000–021045)	Bumper, Side R.H.	1
	14	05081	(020000–021045)	Cover, Rear	1

Fig. 4 – Hood and Bumper Group

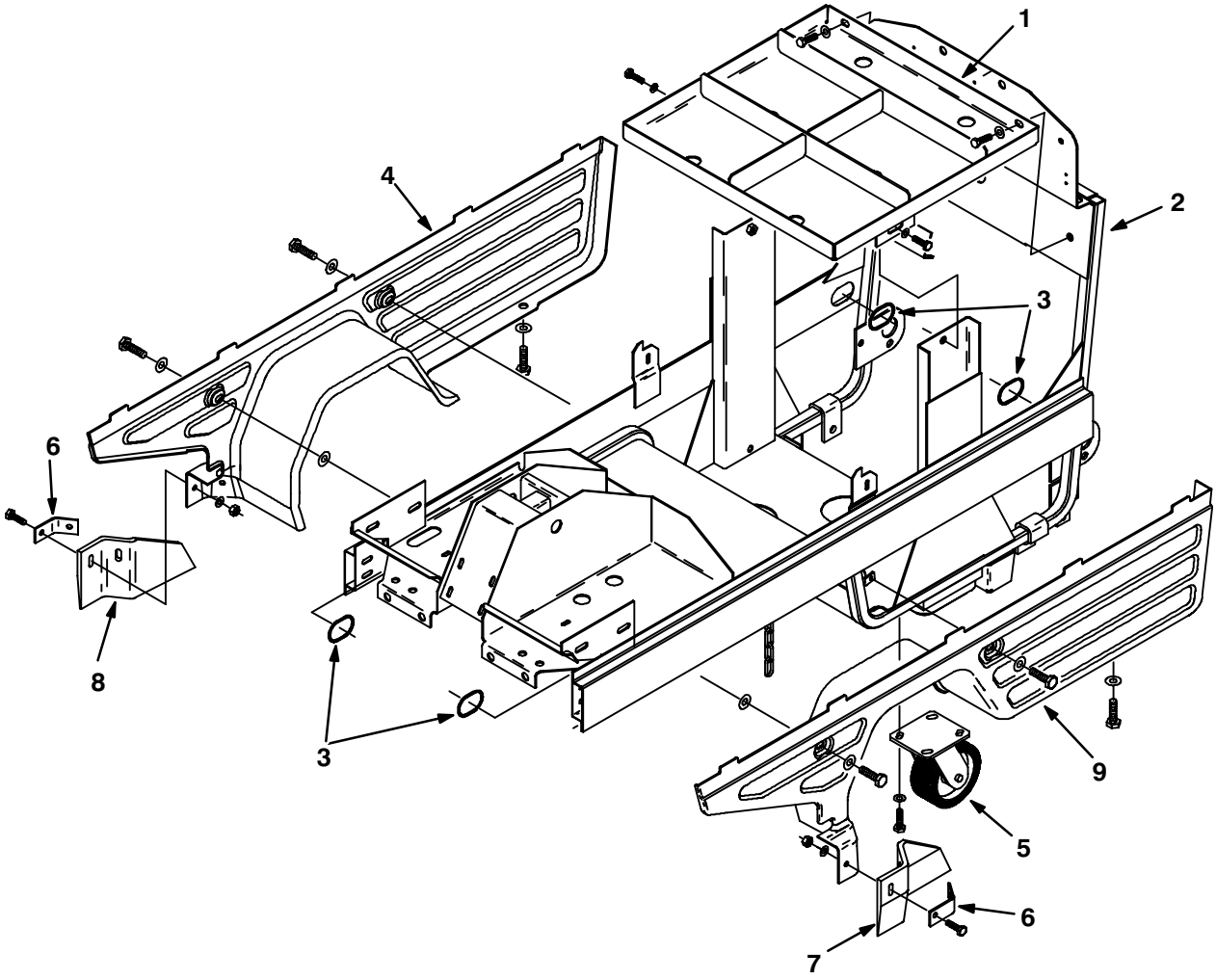


06170/06141

Fig. 4 – Hood and Bumper Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	05044	(021046–	)	Cover, Front	1
▲	2	33360	(021046–	)	Seal	1
	3	05284	(021046–	)	Clip, Retainer, M10	8
	4	33454	(021046–	)	Plate, Mount	2
	5	33537	(021046–	)	Bumber, Side, R.H.	1
	6	33536	(021046–	)	Bumper, Side, L.H.	1
	7	05236	(021046–	)	Bar, Hinge Long	2
	8	05223	(021046–	)	Bar, Hinge Short	2
	9	05272	(021046–	)	Spacer, Hinge	4
	10	33407	(021046–	)	Block, Corner Frame	2
	11	05073	(021046–	)	Bumper, Front	1
	12	05081	(021046–	)	Cover, Rear	1

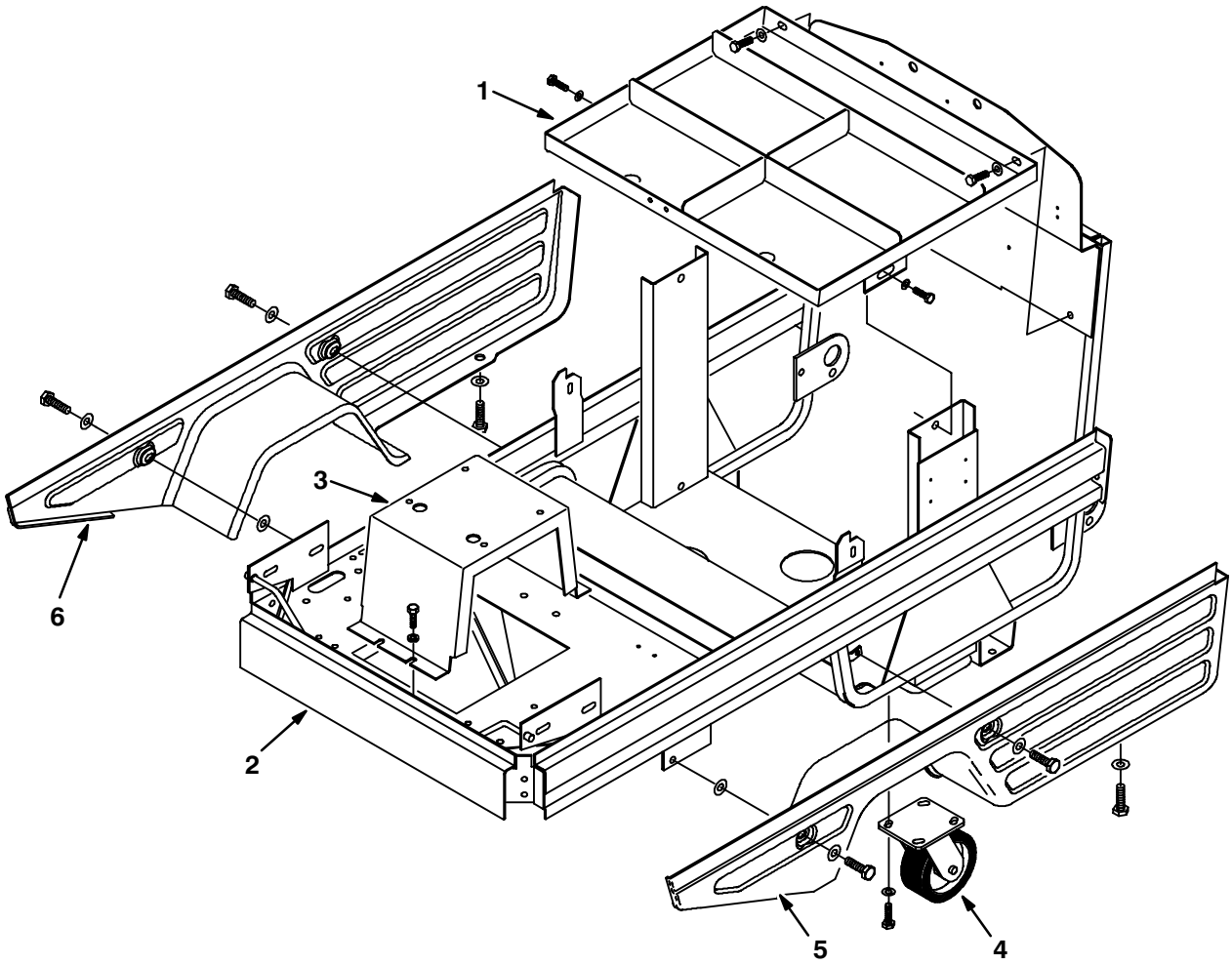
Fig. 5 – Main Frame Group



05057/04775

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	28163	(020000–021045)	Tray, Battery	1
2	24865	(020000–021045)	Frame Replacement Kit	1
3	27929	(020000–021045)	Grommet	4
4	05046	(020000–021045)	Panel, Lower, R.H.	1
5	65690	(020000–021045)	Caster	2
6	10934	(020000–021045)	Strip, Skirt Retainer	2
7	10932	(020000–021045)	Skirt, Lower Panel, L.H.	1
8	10933	(020000–021045)	Skirt, Lower Panel, R.H.	1
9	05045	(020000–021045)	Panel, Lower, L.H.	1

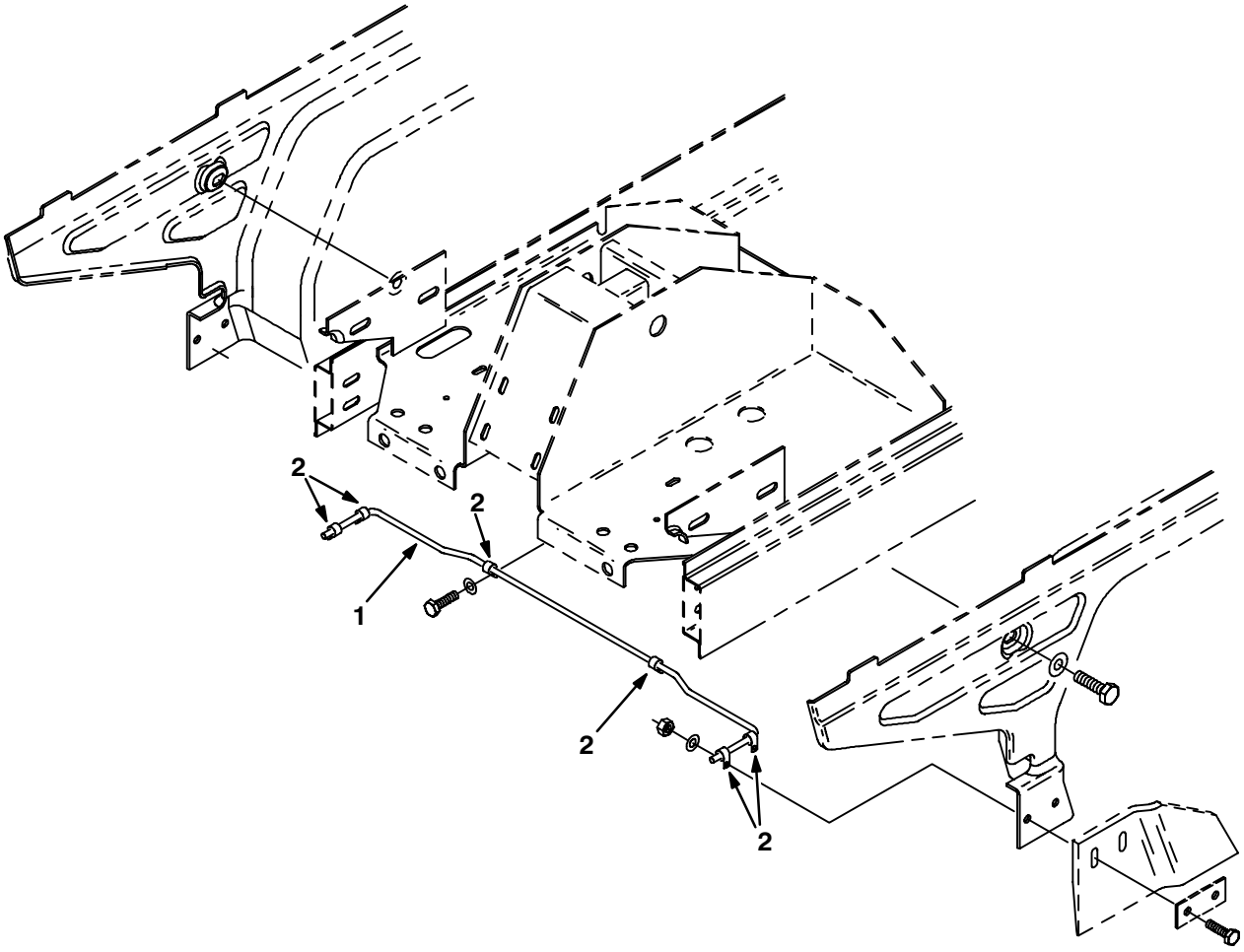
Fig. 6 – Main Frame Group



06172/06140

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	28163	(021046–)	Tray, Battery	1
2	33419	(021046–)	Frame, Main	1
3	33416	(021046–)	Channel	1
4	65690	(021046–)	Caster	2
5	24931	(021046–)	Panel, Cover, L.H.	1
6	24932	(021046–)	Panel, Lower, R.H.	1

Fig. 7 – Side Skirt Support Group

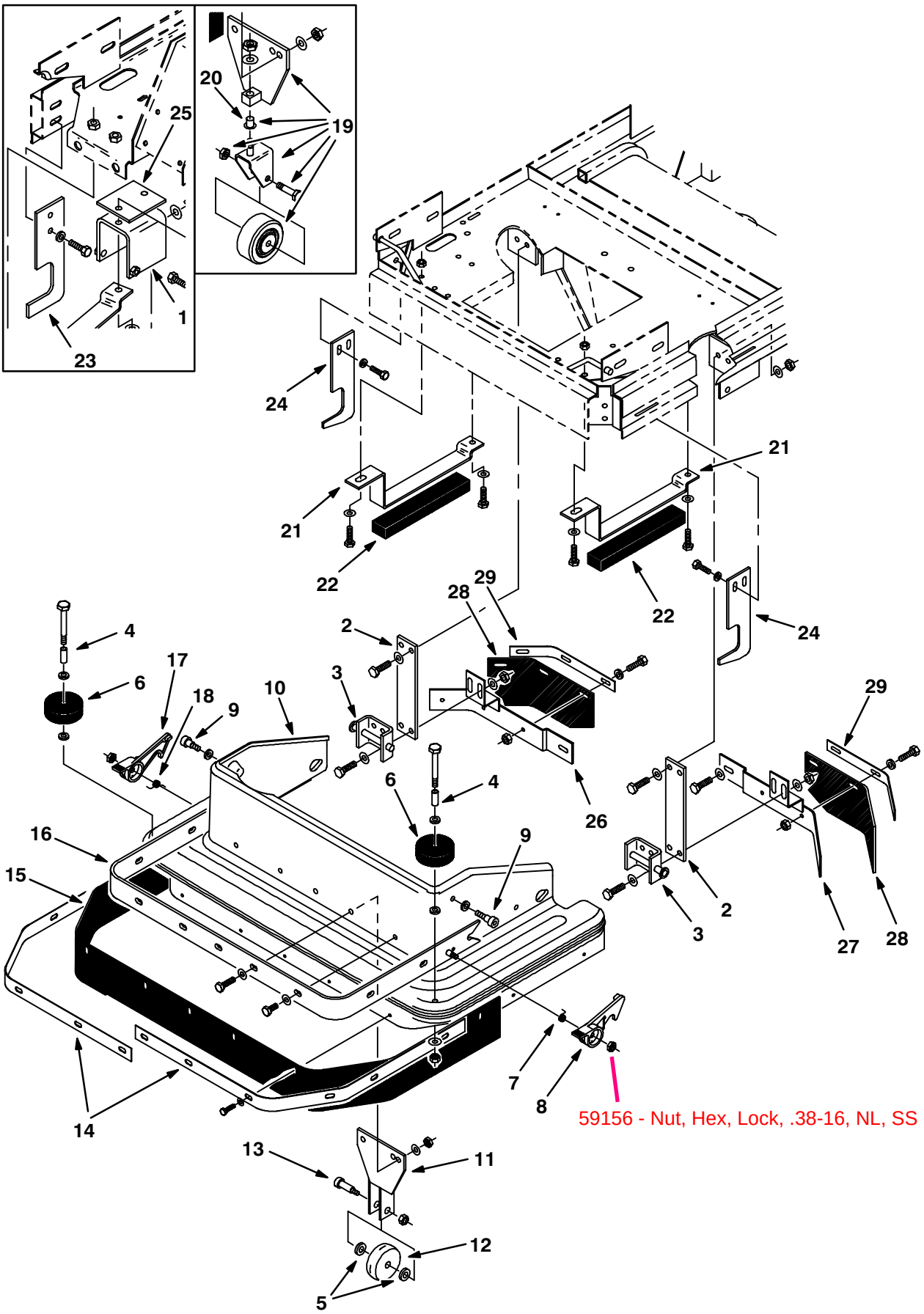


05043/04771

Fig. 7 – Side Skirt Support Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	05681	(020000–021045)	Spring, Skirt Mounting	1
2	46236	(020000–021045)	Clamp, Cable	6

Fig. 8 – Front Shroud Group

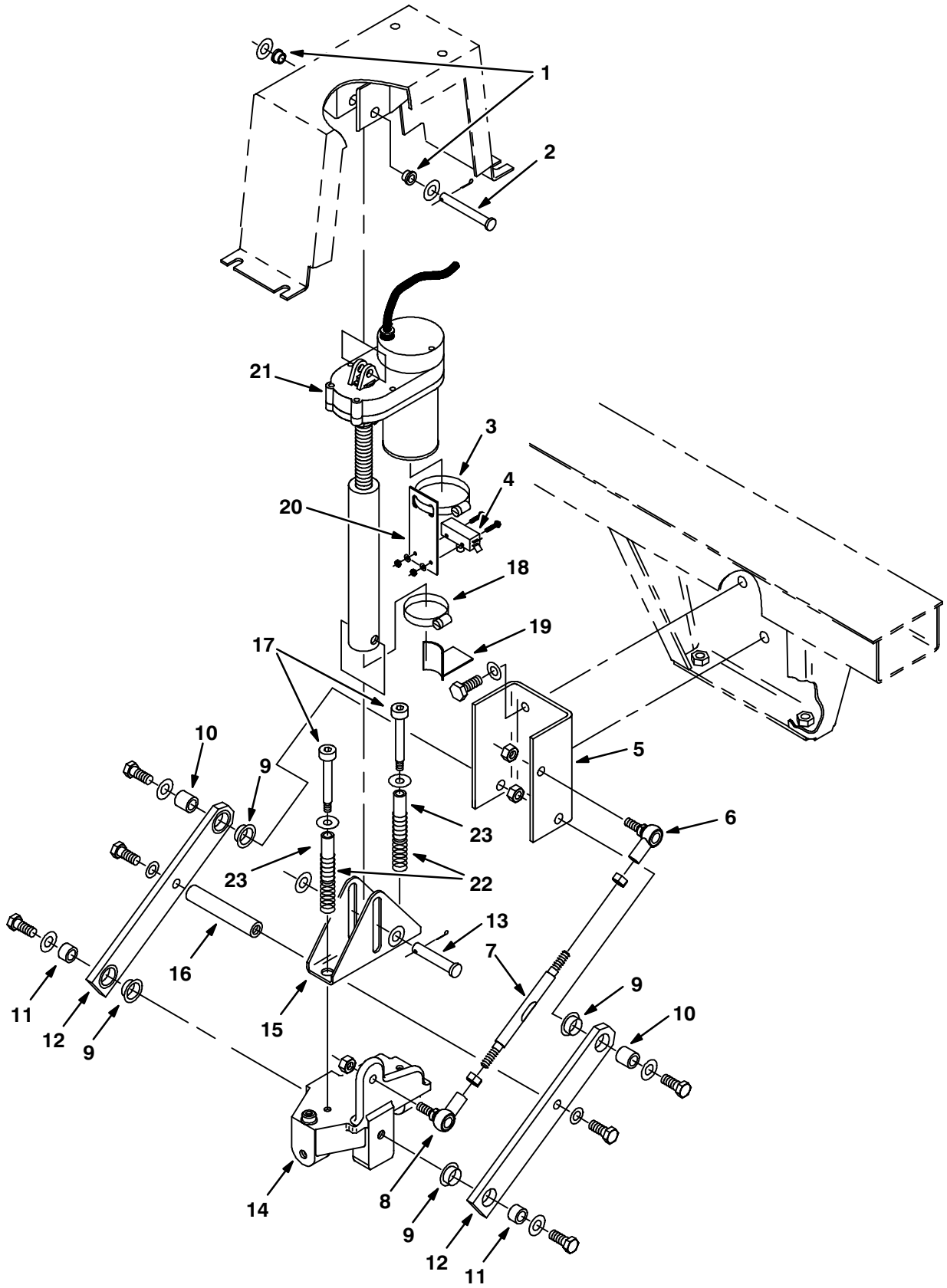


05053/04773

Fig. 8 – Front Shroud Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	06103	(020000–021045	)	Bracket, Spring Mounting	2
	2	06108	(020000–	)	Spring	2
	3	05214	(020000–	)	Bracket, Shroud Mounting	2
∇		28497	(020000–	)	Scrub Shroud Replacement Kit	1
▲	4	33427	(020000–	)	Sleeve	2
▲	5	59633	(020586–	)	Bearing, Thrust, Fiberglide	2
▲	6	86800	(020000–	)	Wheel	2
▲	7	10927	(020000–	)	Spring, Torsion, L.H.	1
▲	8	11613	(020000–	)	Latch, Shroud, L.H.	1
▲	9	36758	(020586–	)	Screw, Shoulder	2
▲	10	28495	(020000–	)	Panel, Scrub Shroud	1
▲	11	28365	(020586–	)	Bracket, Wheel	1
▲	12	86800	(020586–	)	Wheel	1
▲	13	86791	(020586–	)	Screw, Shoulder	1
▲	14	05244	(020000–	)	Strip, Skirt Retainer	2
▲	15	05241	(020000–	)	Skirt, Scrub Head	1
▲	16	05058	(020000–	)	Strap, Shroud	1
▲	17	11612	(020000–	)	Latch, Shroud, R.H.	1
▲	18	10928	(020000–	)	Spring, Torsion, R.H.	1
	19	28360	(020000–020585	)	Wheel Replacement Kit	1
	20	11489	(020000–020585	)	Bearing, Flanged	1
	21	04790	(020000–021045	)	Bracket, Head Stop	2
	21	24933	(021046–	)	Bracket, Head Stop	2
	22	04832	(020000–	)	Pad, Head Stop	2
	23	28366	(020586–021045	)	Plate, Shroud	2
	24	24852	(021046–	)	Plate, Mount	2
	25	28238	(020000–021045	)	Plate, Spacer	2
	26	33546	(021046–	)	Bracket, Skirt, R.H.	1
	27	33544	(021046–	)	Bracket, Skirt, L.H.	1
	28	33566	(021046–	)	Skirt, Side	2
	29	33553	(021046–	)	Strip, Backup	2

Fig. 9 – Scrub Head Lift Group

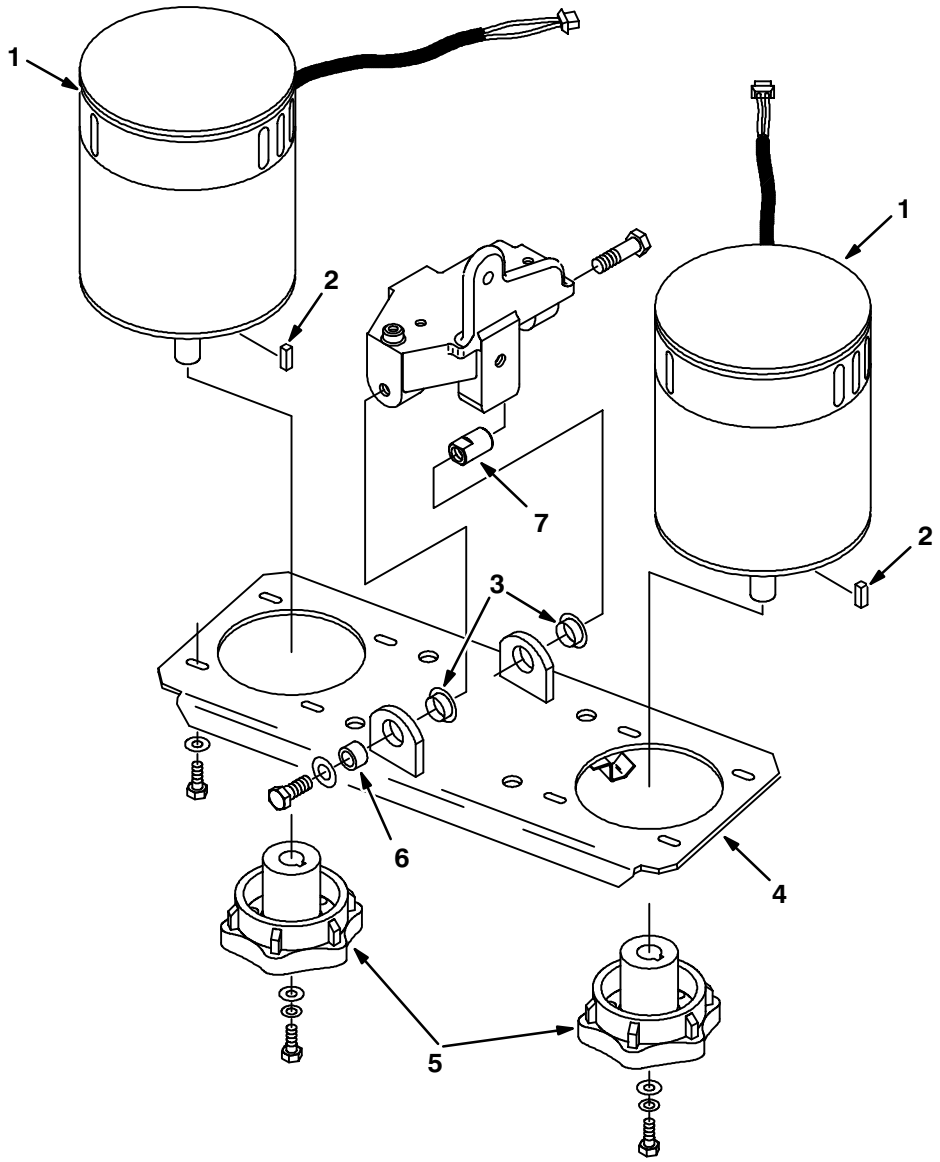


04792/04193

Fig. 9 – Scrub Head Lift Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	44238–10	(020000–)	Bushing, Flange	2
2	29584	(020000–)	Pin, Clevis	1
3	14432	(020000–)	Clamp, Worm Drive	1
4	63846	(020000–)	Switch, Push Button	1
5	04929	(020000–)	Bracket, Link Mount	1
6	05685	(020000–)	Rod End, M10, L.H.	1
7	04921	(020000–)	Rod, Adjusting	1
8	05686	(020000–)	Rod End, M10, R.H.	1
9	04928	(020000–)	Bearing, Flange	4
10	05019	(020000–)	Sleeve	2
11	04927	(020000–)	Sleeve	2
12	04920	(020000–)	Bar, Pivot	2
13	11211	(020000–)	Pin, Clevis	1
14	04924	(020000–)	Pivot, Scrub Head	1
15	10957	(020000–)	Bracket, Head Lift	1
16	04942	(020000–)	Spacer, Rod	1
17	10964	(020000–)	Screw, Shoulder	2
18	11399	(020000–)	Clamp, Worm Drive	1
19	10954	(020000–)	Bracket, Switch	1
20	10951	(020000–)	Bracket, Switch	1
21	10963	(020000–)	Actuator, 36 V	1
22	45261	(020000–)	Spring, Compression	2
23	50682	(020000–)	Sleeve	2

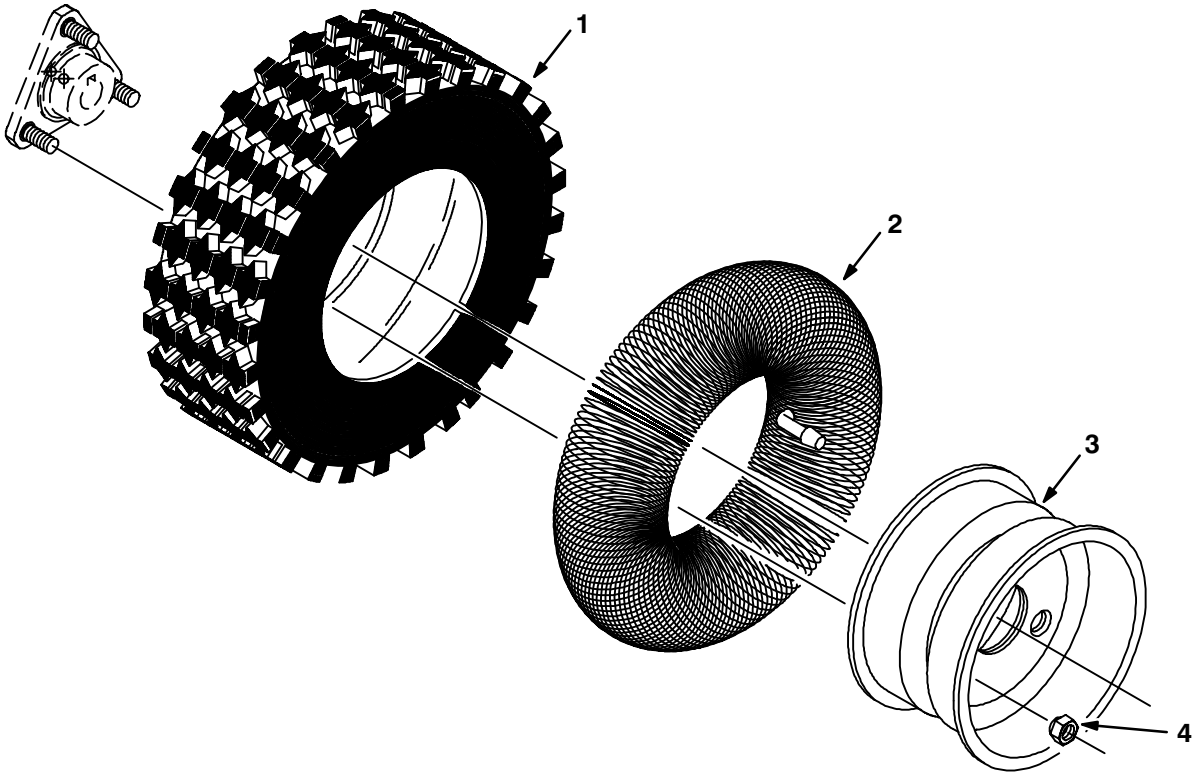
Fig. 10 – Scrub Head Group



04207/05093

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	04742	(020000–	)	Motor, 36 V (See Breakdowns)	2
2	00926	(020000–	)	Key, Square	2
3	04928	(020000–	)	Bearing, Flange	2
4	05076	(020000–	)	Plate, Brush Drive	1
5	14841	(020000–	)	Hub, Brush Drive	2
6	04927	(020000–	)	Sleeve	1
7	05612	(020000–	)	Sleeve, Scrub Head Rear	1

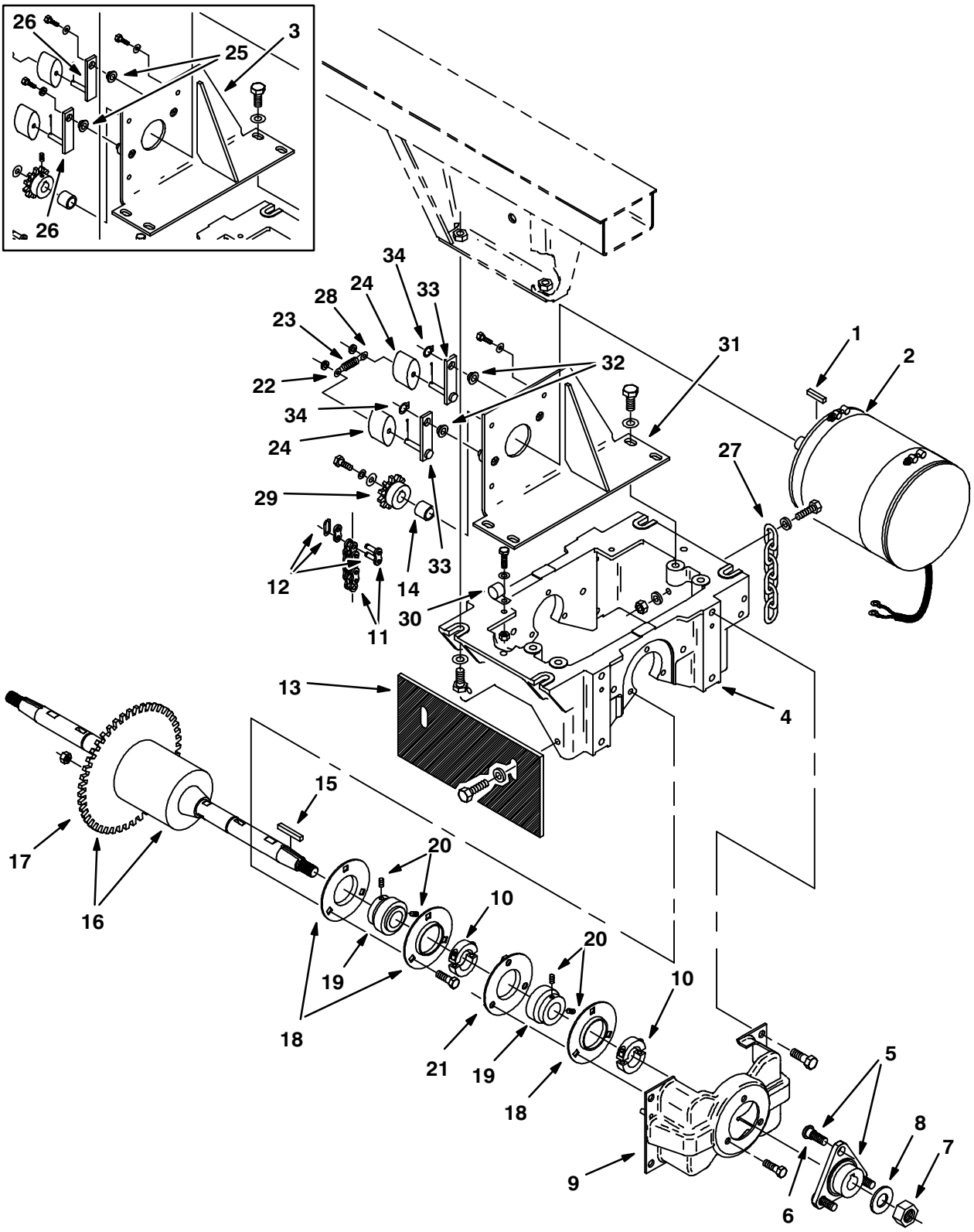
Fig. 11 – Tire and Rim Assembly



04780/04200

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		61597	(020000–	)	Tire and Rim Assembly	2
▲	1	61596	(020000–	)	Tire	1
▲	2	04658	(020000–	)	Tube, Inner	1
▲	3	04657	(020000–	)	Rim	1
	4	11109	(020000–	)	Nut, Wheel	6

Fig. 12 – Single Drive Group

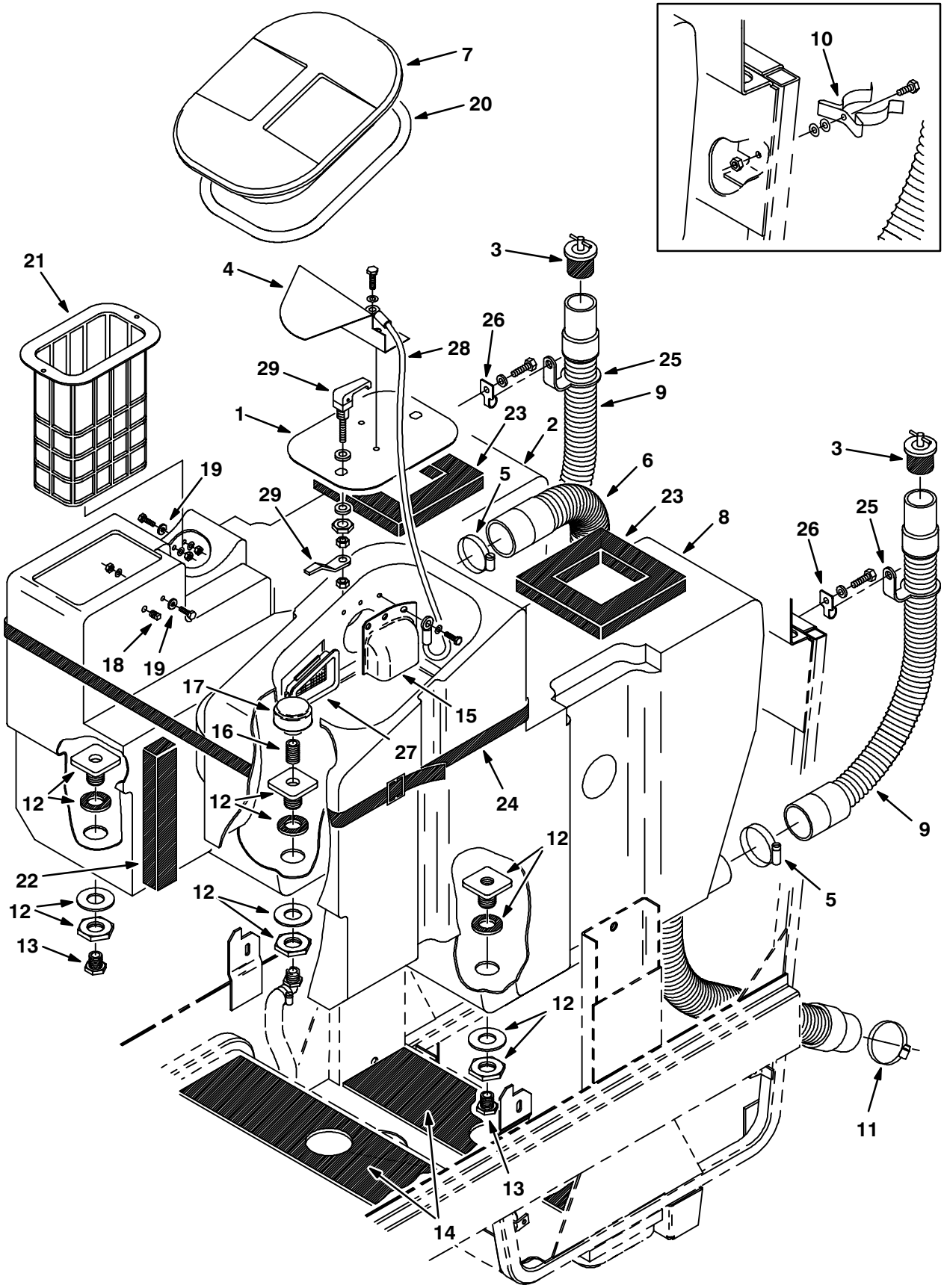


04786/04194

Fig. 12 – Single Drive Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	00926	(020000–	)	Key, Square	1
	2	05680	(020000–	)	Motor, Electric (See Breakdowns)	1
	3	24553	(020000–021103	)	Plate Kit, Motor Mounting	1
	4	05191	(020000–	)	Housing, Drive Wheel Support	1
∇	5	05606	(020000–	)	Hub Assembly, Single Drive	2
▲	6	11117	(020000–	)	Stud, Wheel	3
	7	33342	(020000–	)	Nut, Nylon Hex, M16	2
	8	04400	(020000–	)	Washer, M16	2
	9	11088	(020000–	)	Bracket, Support Bearing	2
	10	05696	(020000–	)	Collar, Clamping	4
∇	11	61416	(020000–	)	Chain and Link Assembly	1
▲	12	28272	(020000–	)	Link, Roller Chain	1
	13	24645	(020000–	)	Skirt	1
	14	04744	(020000–	)	Spacer	1
	15	00927	(020000–	)	Key, Square	2
∇	16	24682	(020000–	)	Differential and Sprocket Replacement Kit	1
▲	17	11127	(020000–	)	Sprocket	1
▲	18	36190	(020000–	)	Flange	6
▲∇	19	24684	(020000–	)	Bearing Replacement Kit	4
▲▲	20	79599	(020000–	)	Screw, Nylon Set	2
▲	21	04746	(020000–	)	Flange, Bearing	2
	22	05605	(020000–	)	Wire, Spring, Long	1
	23	04720	(020000–	)	Spring, Compression	1
	24	04671	(020000–	)	Puck, Chain Tensioner	2
	25	05582	(020000–021103	)	Bearing, Flange	2
	26	24548	(020000–021103	)	Arm Kit, Chain Tensioner	2
	27	47277	(021046–	)	Chain, Static	1
	28	05604	(020000–	)	Wire, Spring, Short	1
	29	04721	(020000–	)	Sprocket	1
	30	40678–1	(020000–	)	Clamp, Cable	1
	31	24552	(021104–	)	Plate, Motor Mounting	1
	32	15877	(021104–	)	Bearing, Flange	2
	33	24547	(021104–	)	Arm, Chain Tensioner	2
	34	24555	(021104–	)	E-Ring, External	2

Fig. 13 – Solution and Recovery Tanks Group

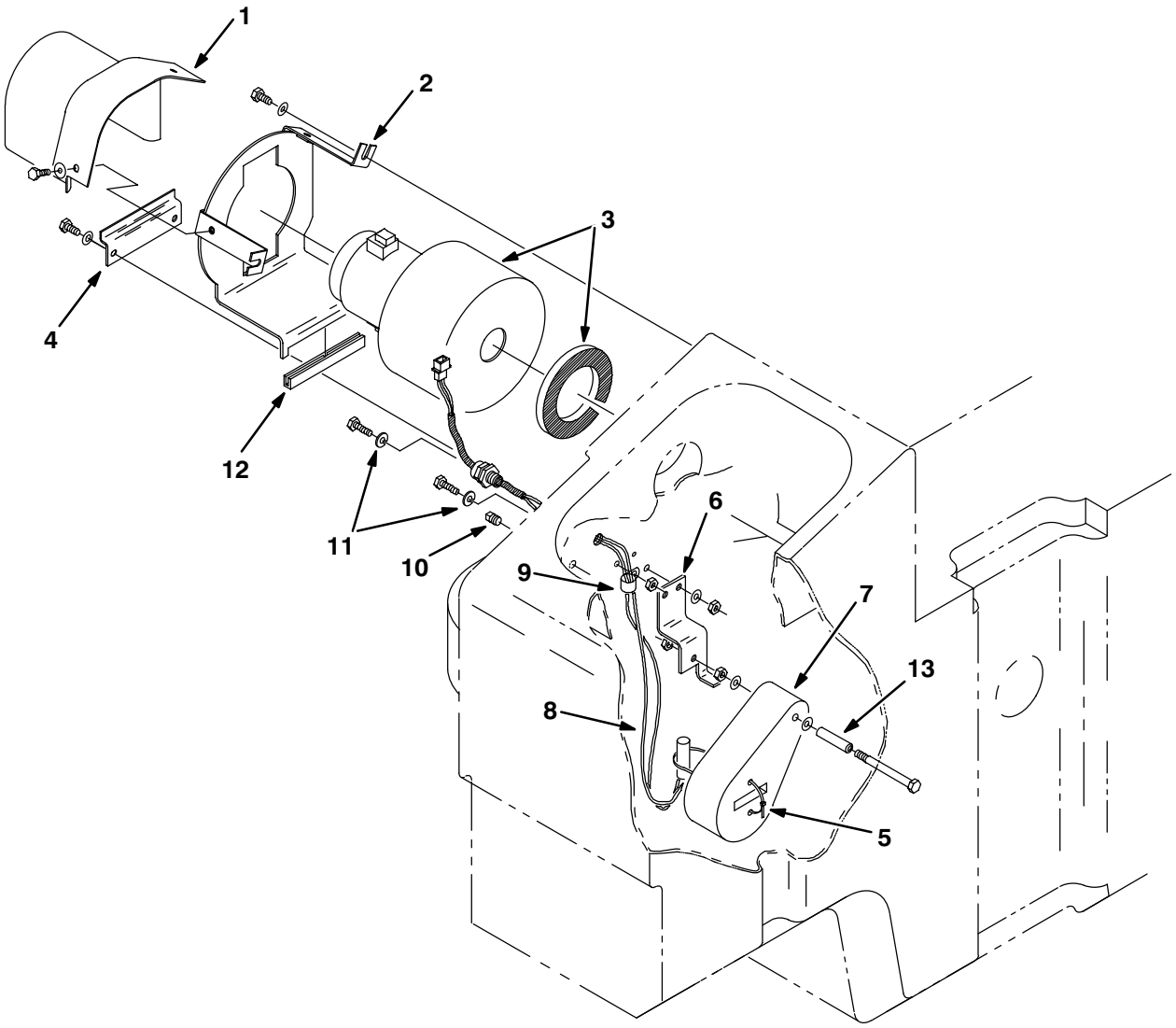


04800/04196

Fig. 13 – Solution and Recovery Tanks Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	65552	(020000–022534	)	Baffle Kit	1
1	65551	(022535–	)	Plate, Baffle	1
2	05016	(020000–	)	Tank, Solution	1
3	222396	(020000–	)	Stopper Assembly	2
4	11746	(020000–	)	Baffle, Tank	1
5	22297	(020000–	)	Clamp, Worm Drive	3
6	05216	(020000–	)	Hose, Squeegee	1
7	06137	(020000–	)	Cover, Recovery Tank	1
8	05017	(020000–	)	Tank Recovery	1
9	05127	(020000–	)	Hose, Drain	2
10	67004	(020000–020968	)	Clip, Finger Grip	2
11	33344	(020000–	)	Clamp, Worm Drive	1
12	65566	(020000–	)	Fitting, Straight	3
13	75611	(020000–	)	Fitting, Plug	2
14	05675	(020000–	)	Pad, Tank	2
15	11750	(020000–	)	Baffle, Vacuum Fan	1
16	69784	(020000–	)	Fitting, Nipple	1
17	05218	(020000–	)	Strainer, Solution Tank	1
18	56119	(020000–	)	Fitting, Plug	1
19	76426	(020000–	)	Washer, Sealing	3
20	05165	(020000–	)	Seal, Recovery Tank Lid	1
21	43516A	(020000–	)	Basket, Soap	1
22	04832	(020000–	)	Pad, Foam	1
23	57828	(020000–	)	Foam	2
24	04836	(020000–	)	Strap, Poly	1
25	24663	(020969–	)	Strap, Drain Hose	2
26	24638	(020969–	)	Clip, Drain Hose	2
27	05089	(020000–	)	Screen	1
28	19676	(020000–	)	Lanyard	1
29	65695	(022535–	)	Latch, Lift and Turn, Adjustable	2

Fig. 14 – Recovery Tank Float Group

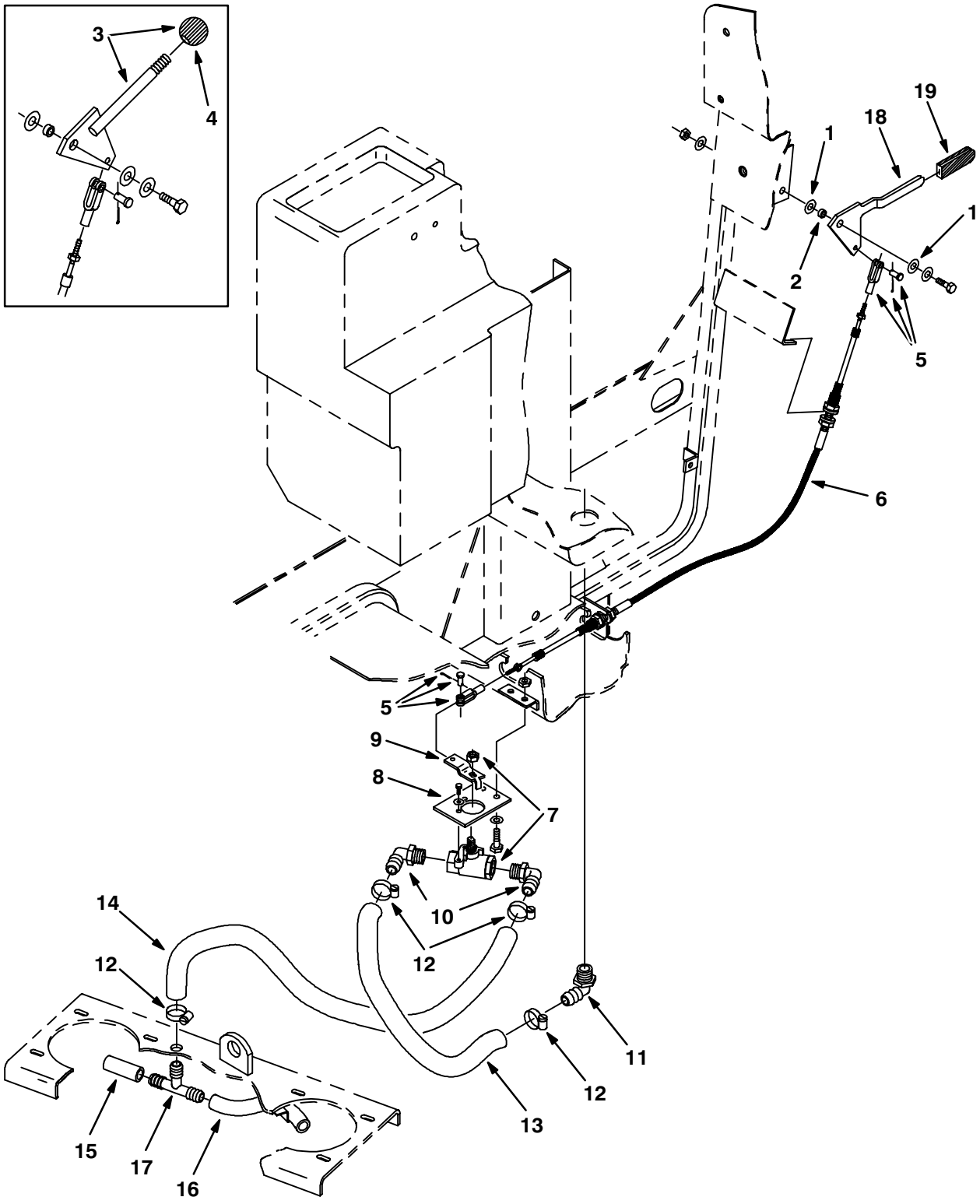


05033/04218

Fig. 14 – Recovery Tank Float Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	10936	(020000–	)	Guard, Vacuum Fan	1
2	06174	(020000–	)	Bracket, Vacuum Fan	1
3	10914	(020000–	)	Vacuum, Fan (See Breakdowns)	1
4	06146	(020000–	)	Bracket, Mounting	1
5	49266	(020000–	)	Tie, Cable	1
6	05567	(020000–	)	Bracket, Water Level Control	1
7	65683	(020000–	)	Float, Water Level	1
8	10935	(020000–020635	)	Mercury Switch Assembly	1
8	28346	(020636–	)	Mercury Switch Assembly	1
9	33584	(020000–	)	Clamp, Cable	1
10	56119	(020000–	)	Fitting, Plug	1
11	76426	(020000–	)	Washer, Sealing	3
12	10911	(020000–	)	Isolator, Vacuum Fan	1
13	78551	(020000–	)	Tube	1

Fig. 15 – Solution Control Group

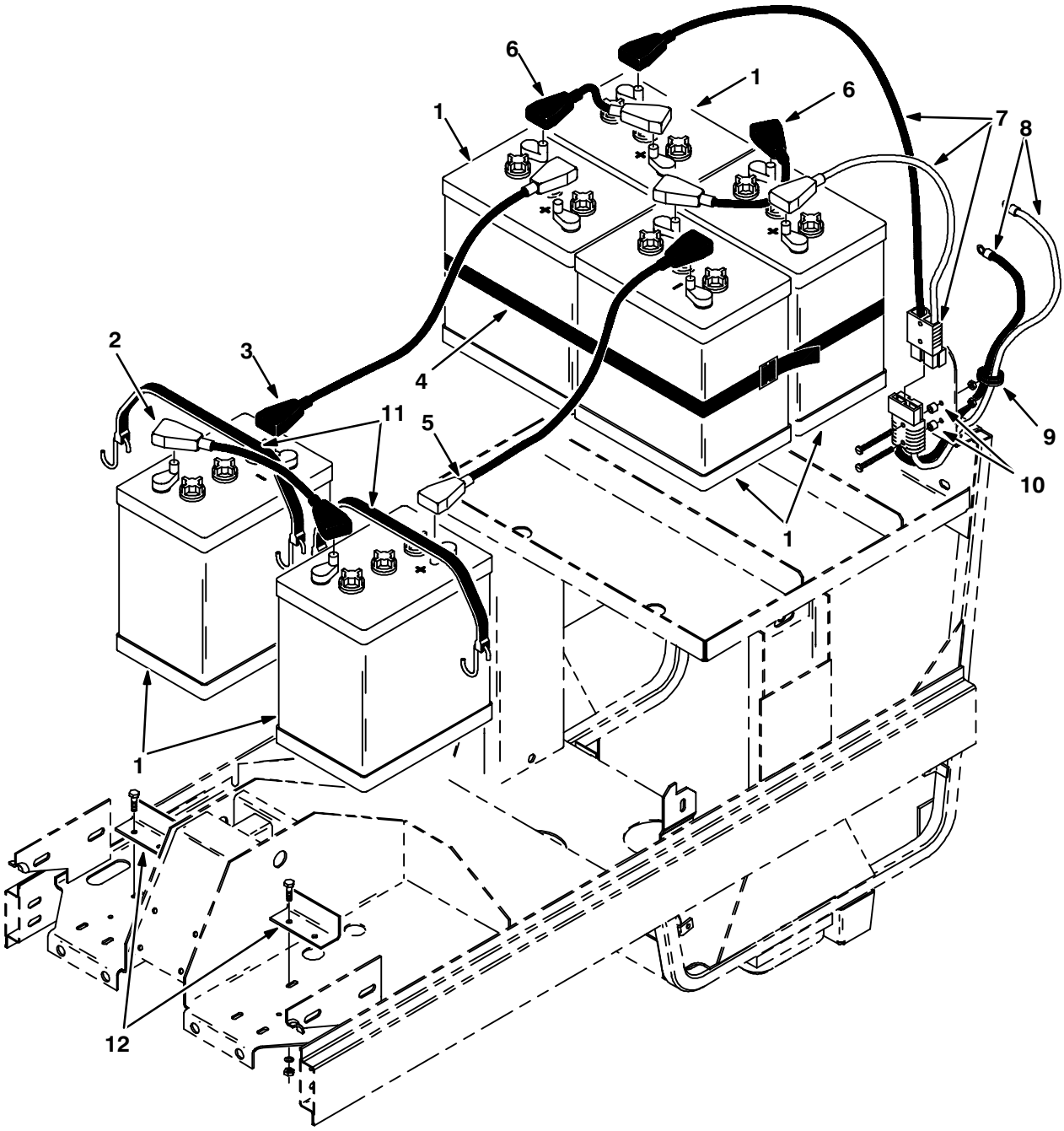


05037/04198

Fig. 15 – Solution Control Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	43611	(020000–)	Washer, Nylon	2
2	63342	(020000–)	Sleeve	1
3	33441	(020000–020635)	Water Handle Kit	1
4	26565	(020000–020635)	Knob	1
5	27880	(020000–)	Yoke Assembly	2
6	05670	(020000–)	Cable, Push Pull	1
7	12083	(020000–)	Water, Valve	1
8	05294	(020000–)	Bracket, Valve Mounting	1
9	05669	(020000–)	Arm, Water Valve	1
10	63244–1	(020000–)	Fitting, Barbed Elbow	2
11	63244–3	(020000–)	Fitting, Barbed Elbow	1
12	54333	(020000–)	Clamp, Worm Drive	4
13	05714	(020000–)	Hose, PVC	1
14	05712	(020000–)	Hose, Clear Vinyl	1
15	05711	(020000–)	Hose, Clear Vinyl	1
16	05717	(020000–)	Hose, Clear Vinyl	1
17	63245–1	(020000–)	Fitting, Barbed Tee	1
18	33438	(020636–)	Lever, Control	1
19	33439	(020636–)	Grip, Handle	1

Fig. 16 – Battery Group

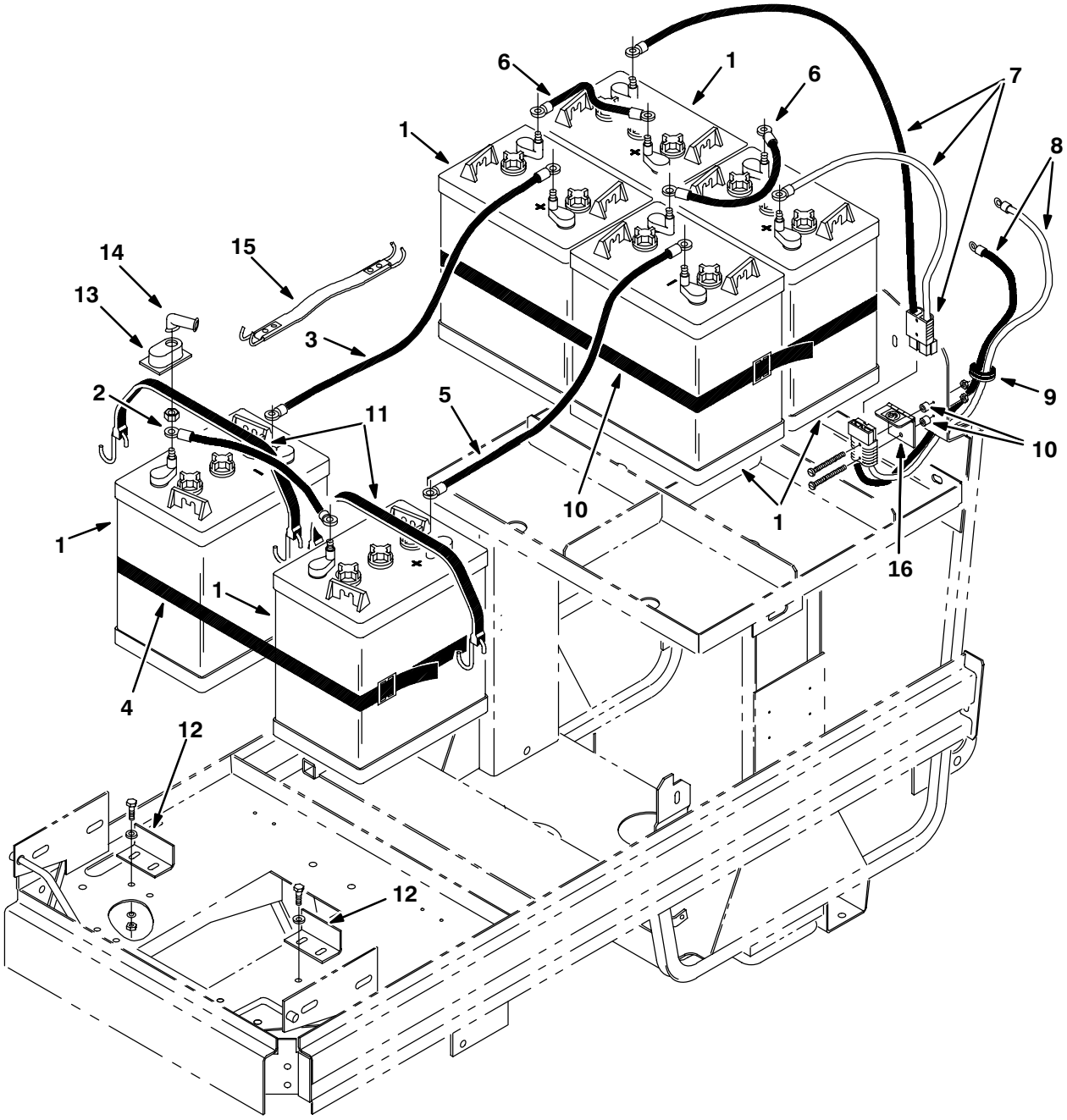


05051/04201

Fig. 16 – Battery Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11230	(020000–020440)	Battery, 6 V, Wet (Replaced by 10155)	6
1	11229	(020000–020440)	Battery, 6 V, Dry (International Only)	6
2	05251	(020000–020440)	Cable, Battery	1
3	63757	(020000–020440)	Cable, Battery	1
4	04836	(020000–020440)	Strap, Poly, Webbing	1
5	05252	(020000–020440)	Cable, Battery	1
6	63755	(020000–020440)	Cable, Battery	2
7	05671	(020000–020440)	Cable, Battery	1
8	05672	(020000–020440)	Cable, Battery	1
9	10632	(020000–020440)	Grommet	1
10	65742	(020000–020440)	Sleeve	2
11	33671	(020000–020440)	Strap, Rubber, Tie–down	2
12	04684	(020000–020440)	Angle, Battery Stop	2

Fig. 17 – Battery Group

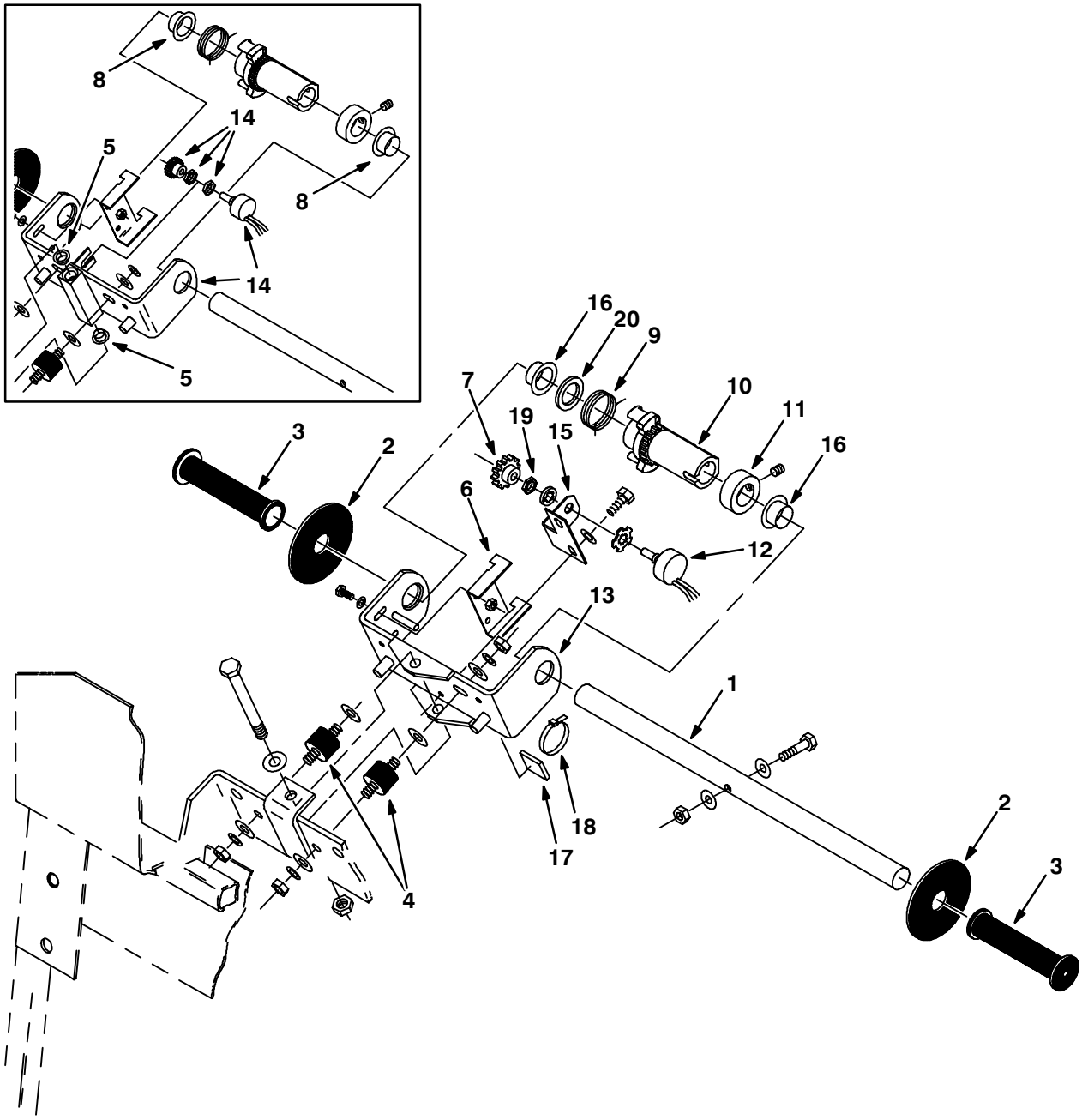


06145/06153

Fig. 17 – Battery Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	10155	(020441–	)	Battery, 6 V, Wet	6
1	11229	(020441–	)	Battery, 6 V, Dry (International Only)	6
2	28333	(020441–	)	Cable, Battery	1
3	28334	(020441–	)	Cable, Battery	1
4	04836	(020441–	)	Strap, Poly, Webbing	2
5	28335	(020441–	)	Cable, Battery	1
6	63740	(020441–	)	Cable, Battery	2
7	28332	(020441–	)	Cable, Battery	1
8	05672	(020441–	)	Cable, Battery	1
9	10632	(020441–	)	Grommet	1
10	65742	(020441–	)	Sleeve	2
11	33671	(020441–	)	Strap, Rubber, Tie–down	2
12	04684	(020441–021045	)	Angle, Battery Stop	2
12	24843	(021046–	)	Angle, Battery Stop	2
13	45962	(020441–	)	Cover, Terminal	12
14	02076	(020441–	)	Cover, Terminal	12
15	28286	(020441–	)	Strap, Battery Lift	1
16	65744	(020441–	)	Hinge, W/Label, SB50	1

Fig. 18 – Steering Control Group

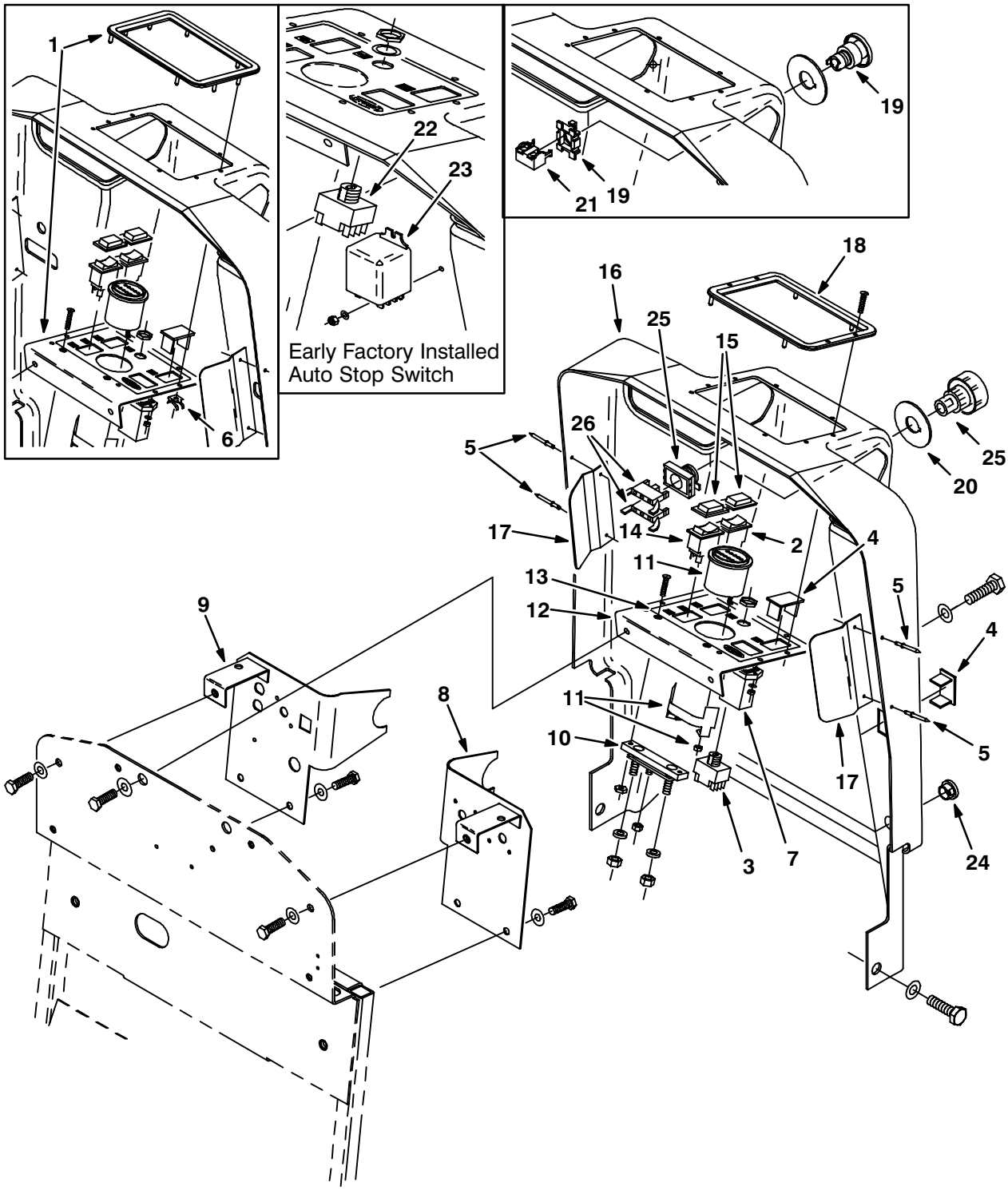


04798/04195

Fig. 18 – Steering Control Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04760	(020000–)	Handle, Speed Control	1
2	06208	(020000–)	Washer, Neoprene	2
3	04765	(020000–)	Grip, Handle	2
4	05611	(020000–)	Isolator, Vibration	2
5	05582	(020000–020373)	Bearing, Flange	2
6	04767	(020000–)	Stop, Spring	1
7	27974	(020374–)	Gear	1
8	04761	(020000–020373)	Bearing, Flange	2
9	04762	(020000–)	Spring, Torsion Centering	1
10	04763	(020000–)	Hub And Gear	1
11	04766	(020000–)	Collar, Shaft	1
12	27955	(020374–)	Potentiometer Replacement Kit	1
13	27934	(020374–)	Bracket, Handle	1
14	27971	(020000–020373)	Potentiometer Replacement Kit	1
15	27973	(020374–)	Bracket, Potentiometer	1
16	27937	(020374–)	Bearing, Flange	2
17	55248	(020000–)	Mount, Cable Tie	1
18	49266	(020000–)	Tie, Cable	1
19	86730	(020374–)	Nut, Hex, Thin	1
20	82226	(020000–)	Washer	1

Fig. 19 – Rear Electric Panel Group

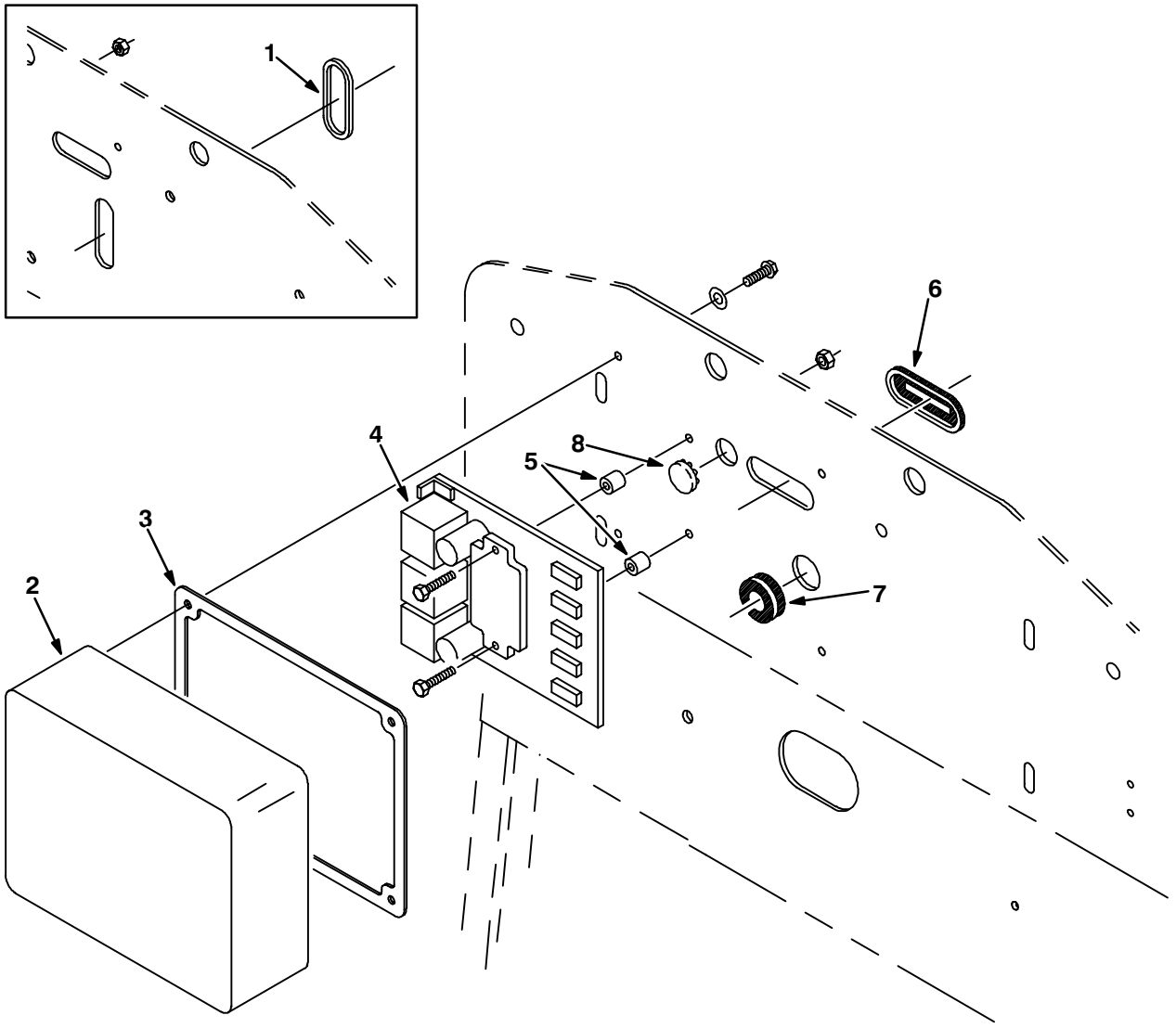


05046/04222

Fig. 19 – Rear Electric Panel Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	33511	(020000–020960	)	Instrument Panel and Bezel Kit	1
	2	65554	(020000–	)	Switch, Progressive Rocker	1
∇	3	31203	(020000–	)	Switch Assembly, Key	1
▲		31204	(020000–	)	Key, Switch	1
	4	57772	(020000–	)	Plate, Cover	2
	5	56799	(020000–	)	Rivet, Pop	4
	6	05280	(020000–020960	)	Clip, Stud	8
	7	31988	(020000–	)	Hourmeter	1
	8	04957	(020000–	)	Plate, Circuit Breaker Mounting	1
	9	28416	(020000–	)	Plate, Circuit Breaker Mounting	1
	10	10973	(020000–	)	Shunt	1
	11	11488	(020000–	)	Brush Pressure/Battery Gauge	1
	12	33501	(020961–	)	Panel, Instrument	1
	13	10960	(020000–	)	Label, Instrument Panel	1
	14	65559	(020000–	)	Switch, Rocker, DPDT	1
	15	57807	(020000–	)	Cover, Rocker Switch Seal	2
	16	65598	(020000–	)	Panel and Label Assembly, Rear	1
	17	05027	(020000–	)	Guide, Cover, Rear	2
	18	33492	(020961–	)	Bezel, Touch Panel	1
	19	28429	(020000–022793	)	Switch, Push Button	1
	20	28428	(020000–	)	Plate, Stop Button	1
	21	11608	(020000–022793	)	Contacts, Switch	2
∇	22	11651	(020000–020916	)	Switch Assembly	1
▲		31204	(020000–020916	)	Key, Switch	1
	23	87284	(020000–020916	)	Relay, DPDT	1
	24	65584	(020000–	)	Plugbuuton	1
	25	65664	(022794–	)	Switch, Push Button	1
	26	65665	(022794–	)	Contacts, Switch	2

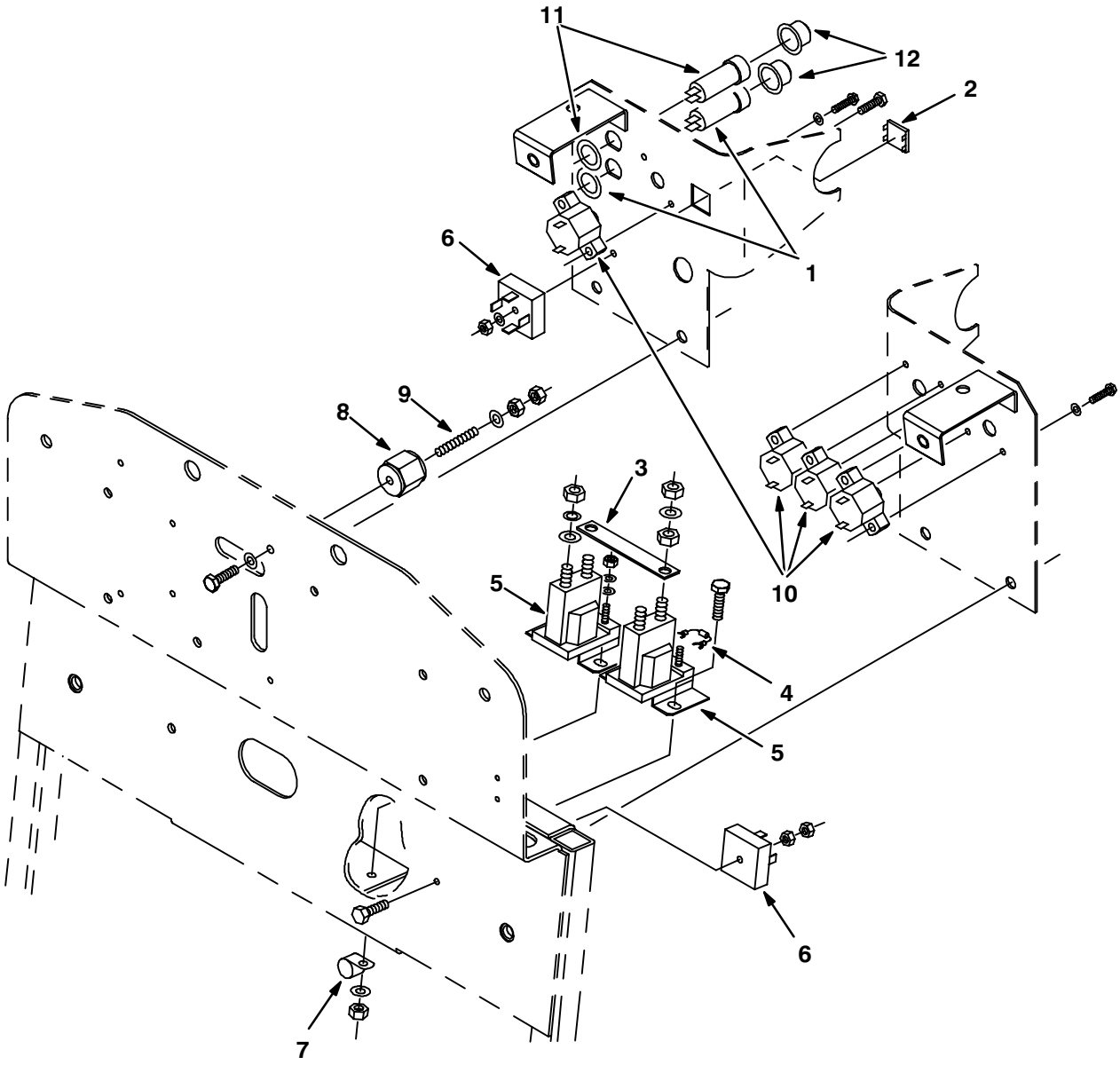
Fig. 20 – Electrical Controller Group



05048/04779

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11708	(020000–020282)	Grommet, Flexible	1
2	11713	(020000–)	Cover and Label Assembly, Circuit Board	1
3	11341	(020000–)	Gasket, Controller	1
4	27963	(020000–)	Controller Kit, Single	1
5	65742	(020000–)	Sleeve	2
6	27928	(020283–)	Grommet, Ribbon Cable	1
7	10632–9	(020283–)	Grommet	1
8	57167	(020283–)	Plugbutton	1

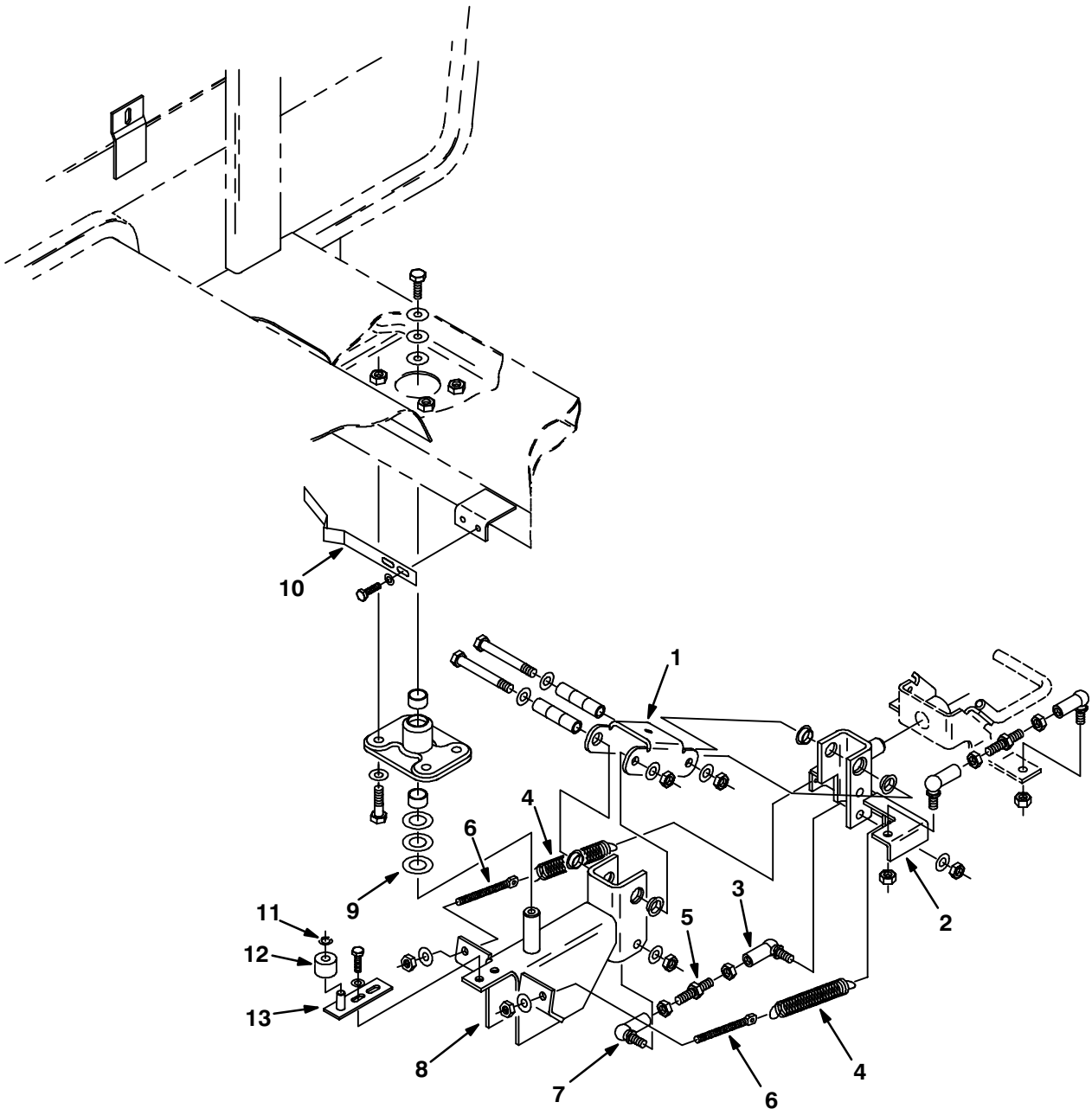
Fig. 21 – Rear Electrical Group



05050/04778

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	57164	(020000–	)	Breaker, Circuit, 10 A	1
2	28426	(020990–	)	Plugbutton	1
3	10967	(020000–	)	Busbar, Relay	1
4	32234	(020000–	)	Diode Assembly	1
5	04685	(020000–	)	Contactor, SPST	2
6	10962	(020000–	)	Diode, Bridge, 12 A	2
7	26395–1	(020000–	)	Clamp, Cable	1
8	76062	(020000–	)	Insulator, Panel and Switch Board	1
9	41702	(020000–	)	Rod, Threaded	1
10	27967	(020000–	)	Breaker, Circuit, 20 A	4
11	87977	(020000–	)	Breaker, Circuit, 7 A	1
12	57751	(020000–	)	Boot, Circuit Breaker	2

Fig. 22 – Rear Squeegee Link Group

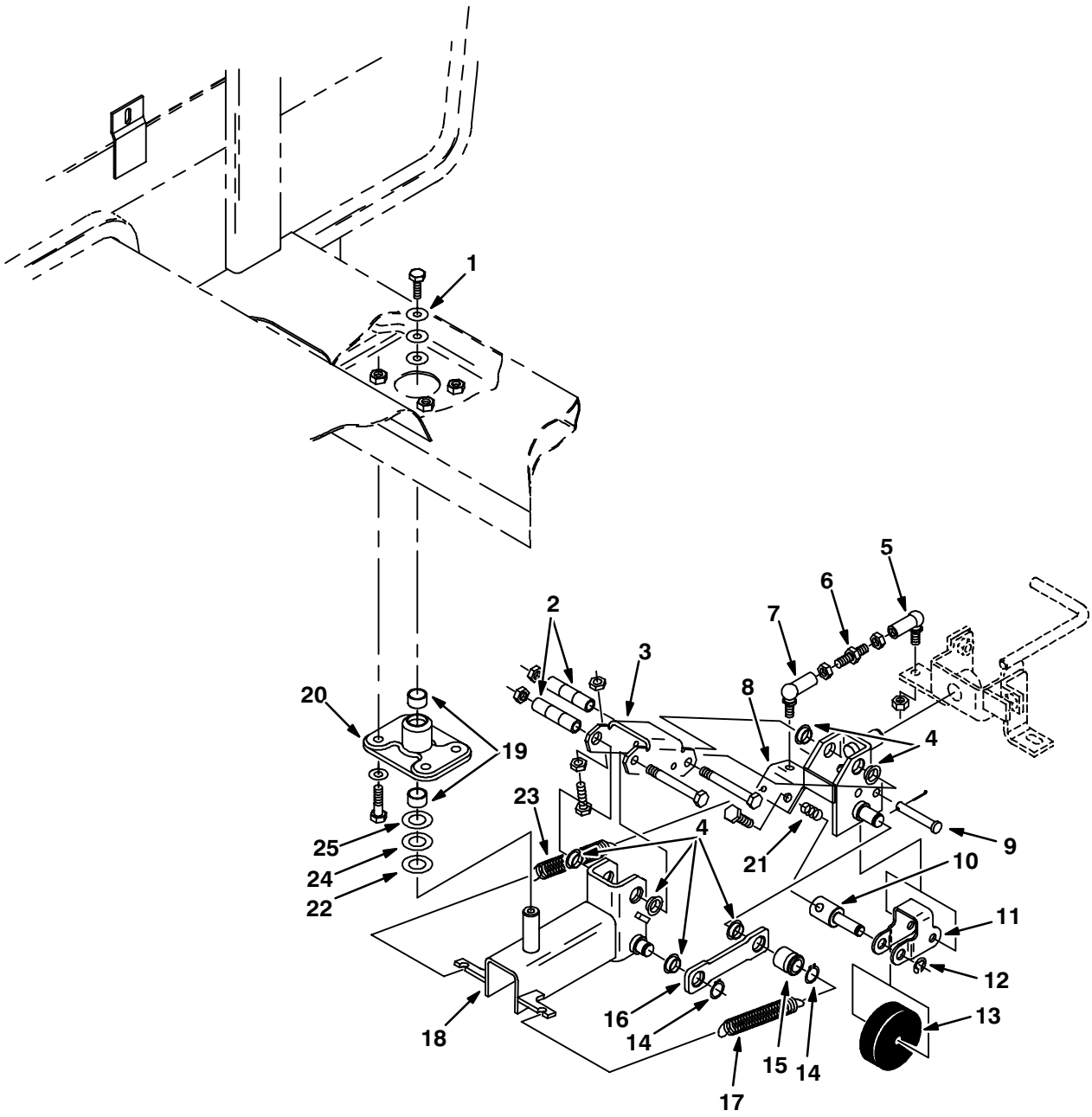


04794/04219

Fig. 22 – Rear Squeegee Link Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	10950	(020000–020293)	Bracket, Squeegee Lift	1
2	10946	(020000–020293)	Bracket, Squeegee Lift	1
3	05291	(020000–020293)	Rod End, M10, L.H.	1
4	33404	(020000–020293)	Spring, Tension	2
5	04869	(020000–020293)	Stud, Adjustable	1
6	32536	(020000–020293)	Bolt, Eye	2
7	05290	(020000–020293)	Rod End, M10, R.H.	1
8	10949	(020000–020293)	Bracket, Squeegee Pivot (replaced by 33397)	1
9	40847–3	(020000–020293)	Shim	–
10	63212	(020000–020553)	Spring, Squeegee Centering	1
11	23514–1	(020000–020553)	Ring, Retaining	1
12	63878	(020000–020553)	Roller	1
13	11679	(020000–020553)	Bracket, Roller	1

Fig. 23 – Rear Squeegee Link Group

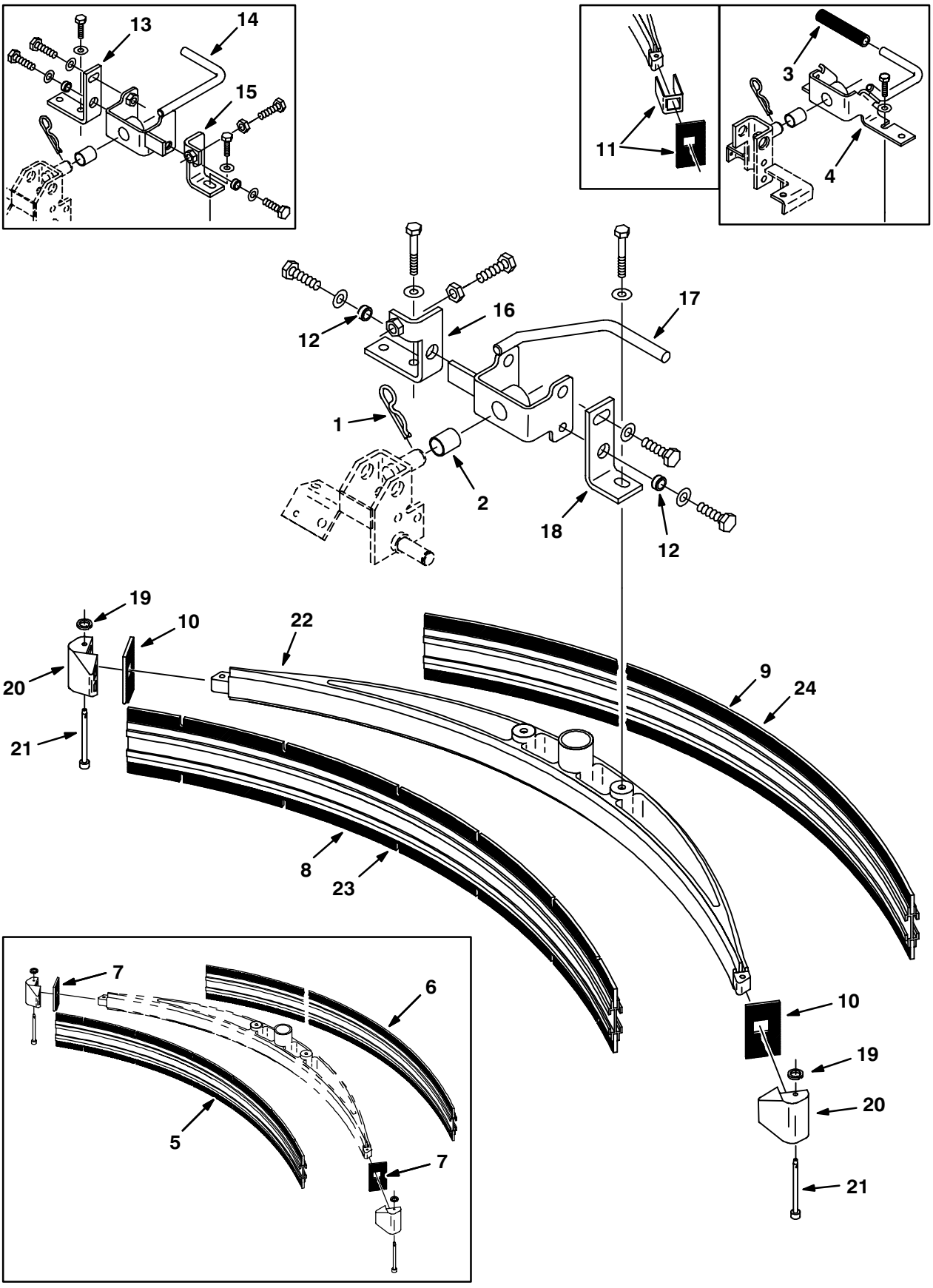


05485/04219

Fig. 23 – Rear Squeegee Link Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	05624	(020000–	)	Washer	1
2	05145	(020000–	)	Sleeve, Squeegee Lift	2
3	33385	(020294–	)	Bracket, Squeegee Lift	1
4	04843	(020000–	)	Bearing, Flange	6
5	63282	(020000–	)	Ball Joint, R.H.	1
6	11676	(020000–	)	Stud, Adjustment	1
7	82962	(020000–	)	Ball Joint, L.H.	1
8	33365	(020294–	)	Bracket, Squeegee Lift	1
9	33355	(020294–	)	Pin, Clevis	1
10	33379	(020294–	)	Axle, Caster Adjustment	1
11	33499	(020294–	)	Bracket, Caster	1
12	05284	(020294–	)	Clip, Retainer	1
13	86800	(020294–	)	Wheel	1
14	33373	(020294–	)	Ring, Retainer	2
15	33358	(020294–	)	Retainer, Spring	2
16	33371	(020294–	)	Link, Connecting	1
17	33404	(020294–	)	Spring, Tension	1
18	33390	(020294–	)	Bracket, Squeegee, Pivot	1
19	64377	(020000–	)	Bearing, Journal	2
20	05099	(020000–	)	Flange, Squeegee Mounting	1
21	33498	(020294–	)	Spring	1
22	64489	(020294–	)	Washer	–
23	33372	(020294–	)	Spring, Tension	1
24	40847–1	(020000–	)	Shim	–
25	04846	(020000–	)	Washer, Thrust	1

Fig. 24 – Rear Squeegee Group

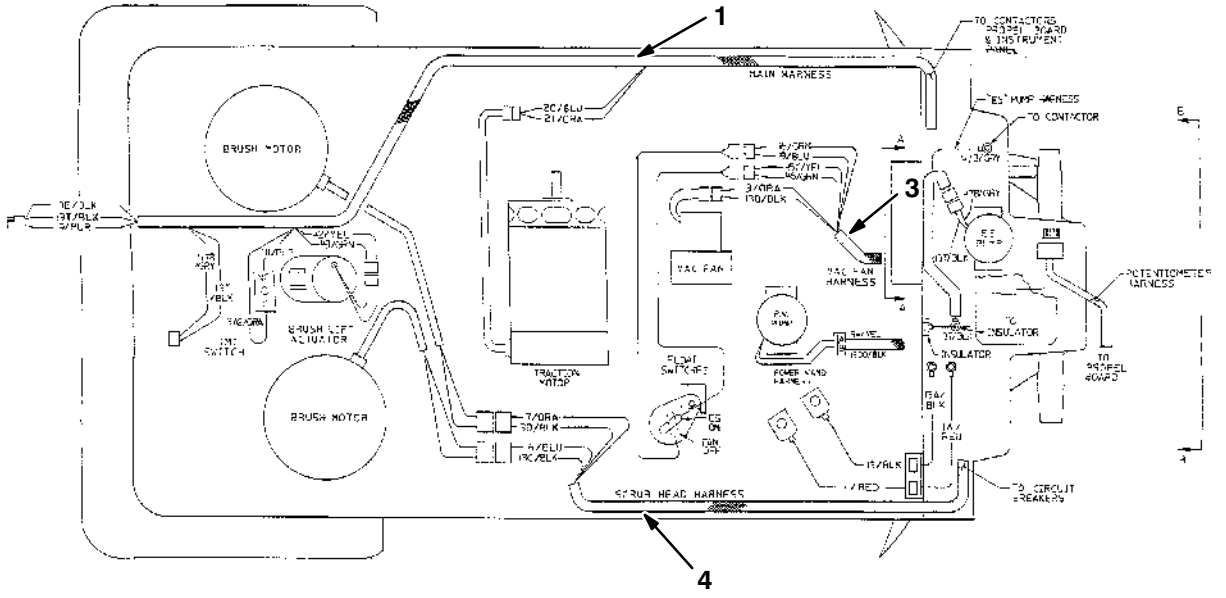


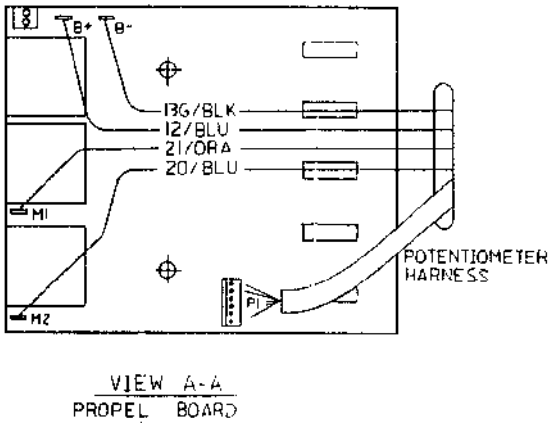
04796/04220

Fig. 24 – Rear Squeegee Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	55094	(020000–	)	Pin, Hair Cotter	1
	2	04844	(020000–	)	Bearing, Journal	1
	3	11372	(020000–020293	)	Tube, Rubber	1
	4	10956	(020000–020293	)	Bracket, Squeegee Pivot	1
∇		11485	(020000–020744	)	Squeegee Blade Kit, Short	1
▲	5	04916	(020000–020744	)	Squeegee Blade Assembly, Front	1
▲	6	04919	(020000–020744	)	Squeegee Blade Assembly, Rear	1
▲	7	33437	(020000–020744	)	Blade, Squeegee End	2
∇		24687	(020745–	)	Squeegee Blade Kit, Long	1
▲	8	33424	(020745–	)	Squeegee Blade Assembly, Front	1
▲	9	33354	(020745–	)	Squeegee Blade Assembly, Rear	1
▲	10	11283	(020745–	)	Blade, Squeegee End	2
	11	27952	(020000–020558	)	Squeegee End Replacement Kit (For both sides)	1
	12	33369	(020294–	)	Sleeve, Squeegee	2
	13	33378	(020294–021103	)	Bracket, Adjustment, R.H.	1
	14	33393	(020294–021103	)	Bracket, Squeegee Mounting	1
	15	33377	(020294–021103	)	Bracket, Adjustment, L.H.	1
	16	04819	(021104–	)	Bracket, Adjustment, R.H.	1
	17	04816	(021104–	)	Bracket, Squeegee Mounting	1
	18	04808	(021104–	)	Bracket, Adjustment, L.H.	1
	19	49708	(020000–	)	Ring, Split	2
	20	04752	(020000–	)	Bumper, Squeegee	2
	21	33403	(020000–	)	Pin, Clevis	2
	22	24633	(020000–	)	Body, Squeegee	1
	23	78546	(020745–	)	Squeegee Blade Assembly, Front, Urethane	1
	24	78547	(020745–	)	Squeegee Blade Assembly, Rear, Urethane	1

Fig. 25 – Wire Harness Group





VIEW A-A
PROPEL BOARD

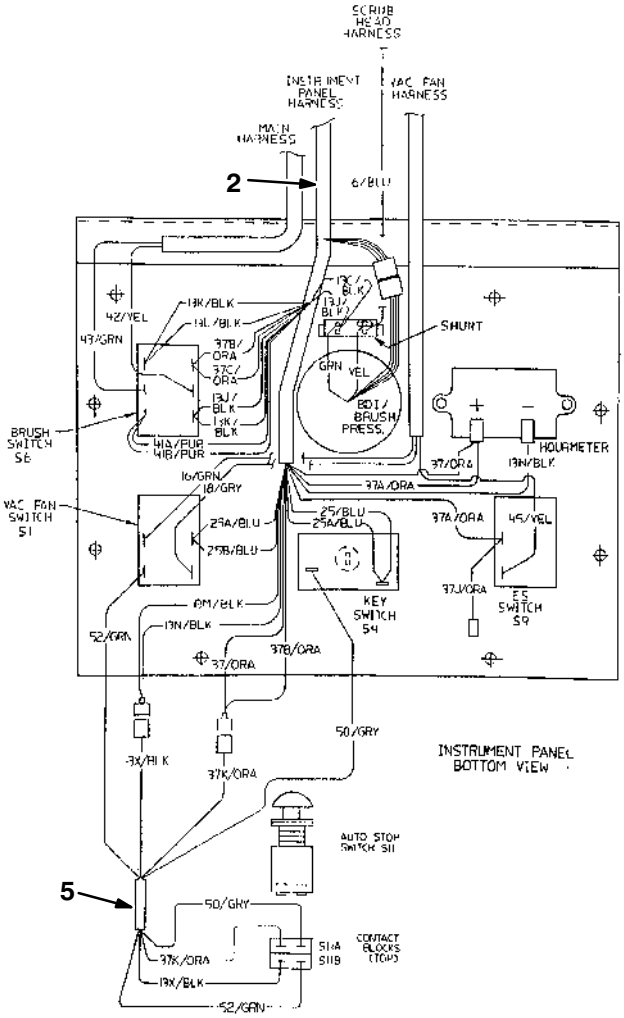
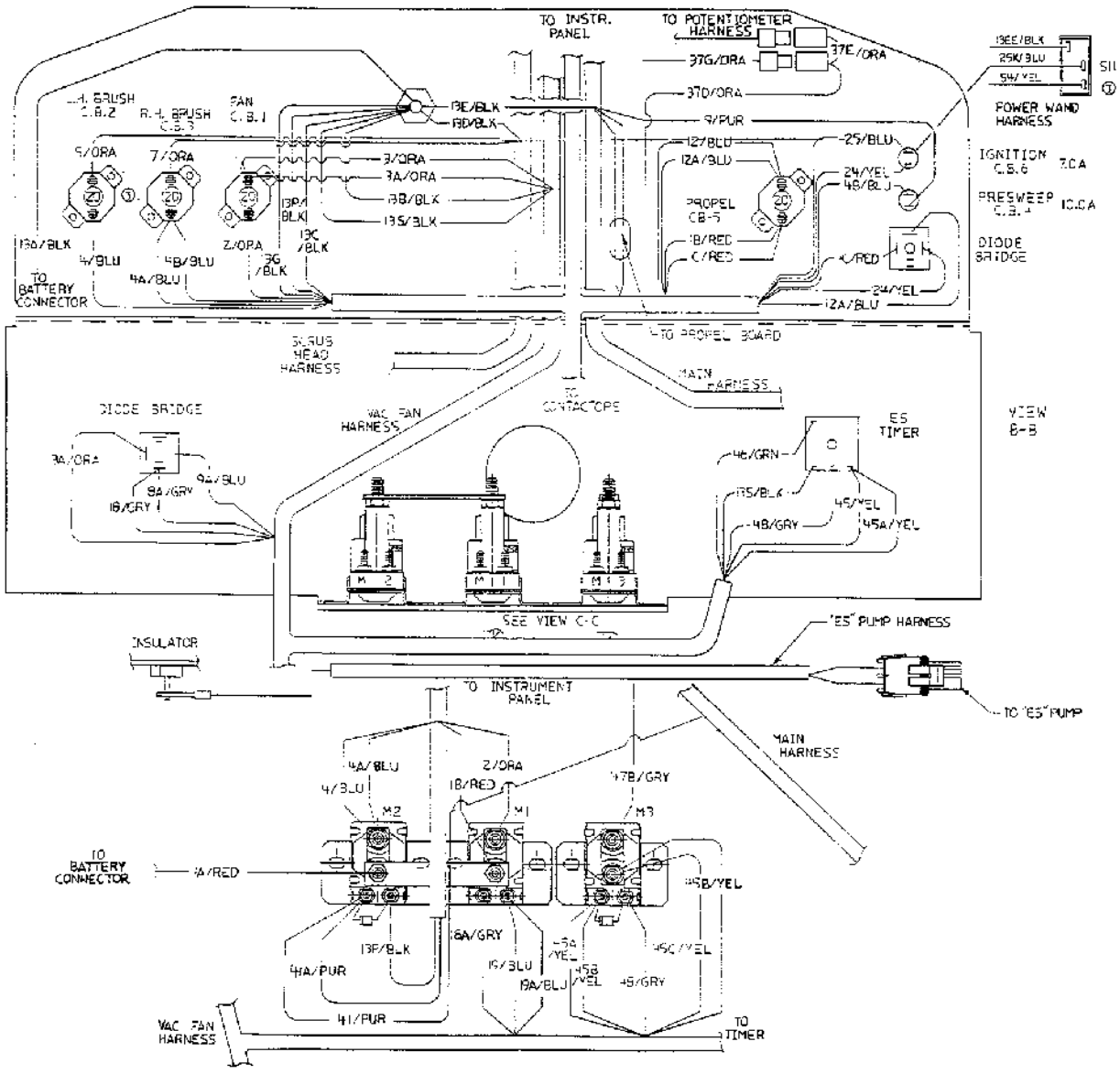


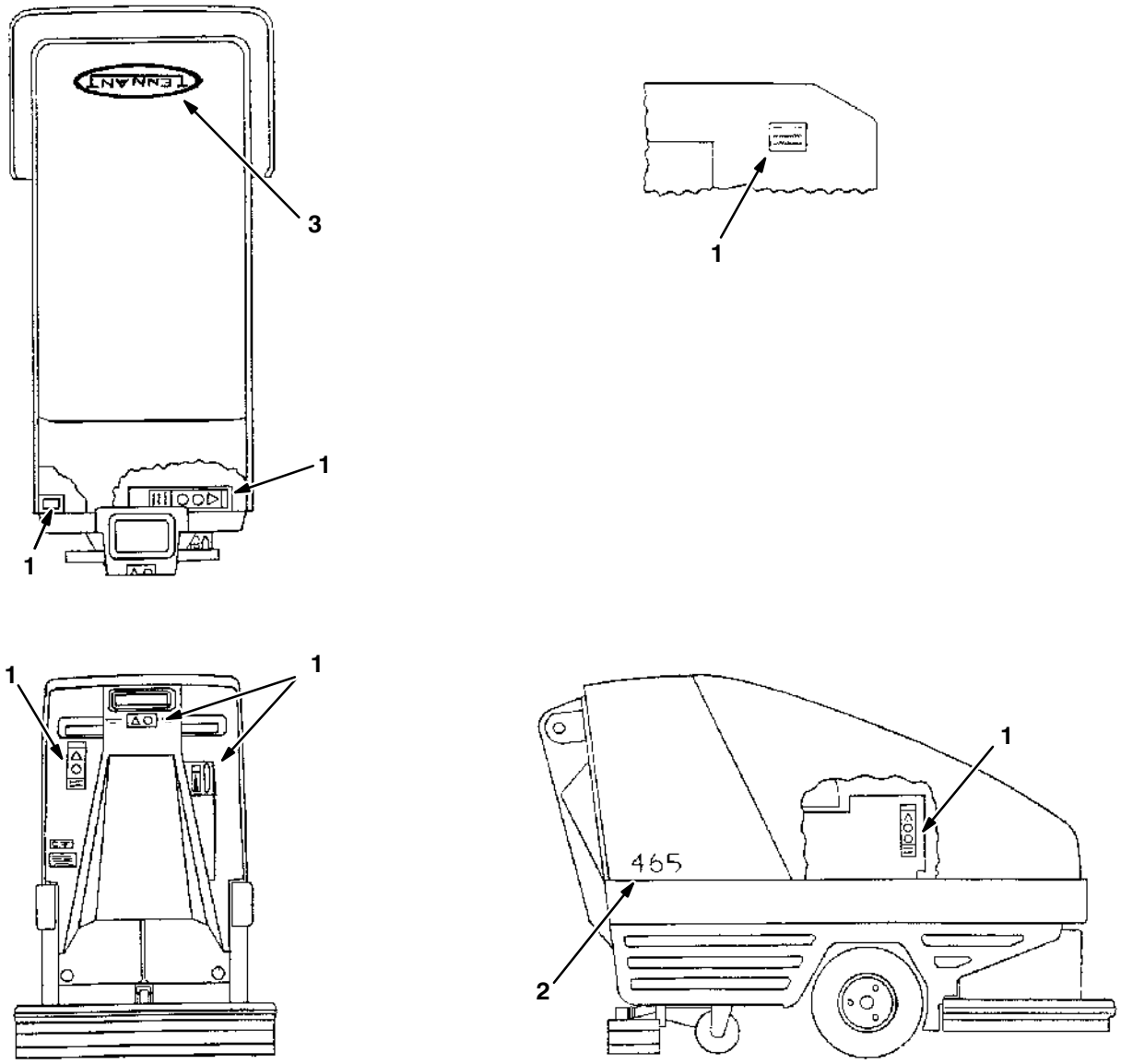
Fig. 25 – Wire Harness Group



05211/05209

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	10940	(020000–	)	Harness, Wire, Main	1
2	10938	(020000–	)	Harness, Wire, Instrument Panel	1
3	28349	(020000–020635	)	Harness Replacement Kit, Vacuum Fan	1
3	28348	(020636–	)	Harness, Wire, Vacuum Fan	1
4	10939	(020000–	)	Harness, Wire, Scrub Head	1
5	65696	(020917–	)	Harness, Wire, Switch	1

Fig. 26 – Label Group



05100/05098

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11541	(020000–)	Label Set, Information and Hazard	1
2	11663	(020000–)	Label, Numerals 480	2
3	09806	(020000–)	Label, TENNANT Logo, Blue	1

SECTION 8

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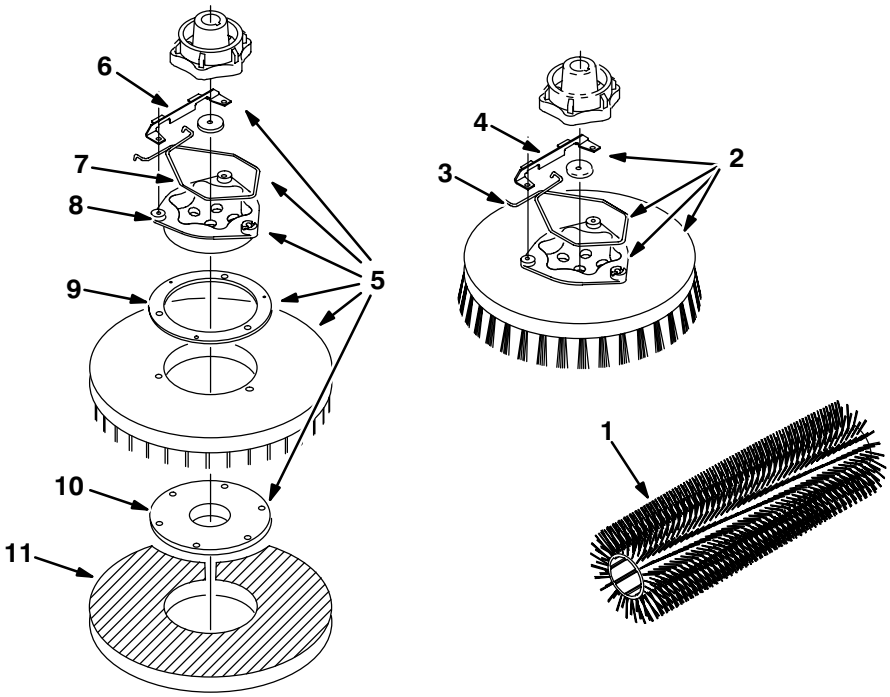
05157

Fig. 1 – Recommended General Maintenance Items

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇	11485	(020000–020744)	Squeegee Blade Kit, Short	1
▲	04916	(020000–020744)	Squeegee Blade Assembly, Front	1
▲	04919	(020000–020744)	Squeegee Blade Assembly, Rear	1
▲	33437	(020000–020744)	Blade, Squeegee End	2
∇	24687	(020745–)	Squeegee Blade Kit, Long	1
▲	33424	(020745–)	Squeegee Blade Assembly, Front	1
▲	33354	(020745–)	Squeegee Blade Assembly, Rear	1
▲	11283	(020745–)	Blade, Squeegee End	2
	78546	(020745–)	Squeegee Blade Assembly, Front, Urethane	1
	78547	(020745–)	Squeegee Blade Assembly, Rear, Urethane	1

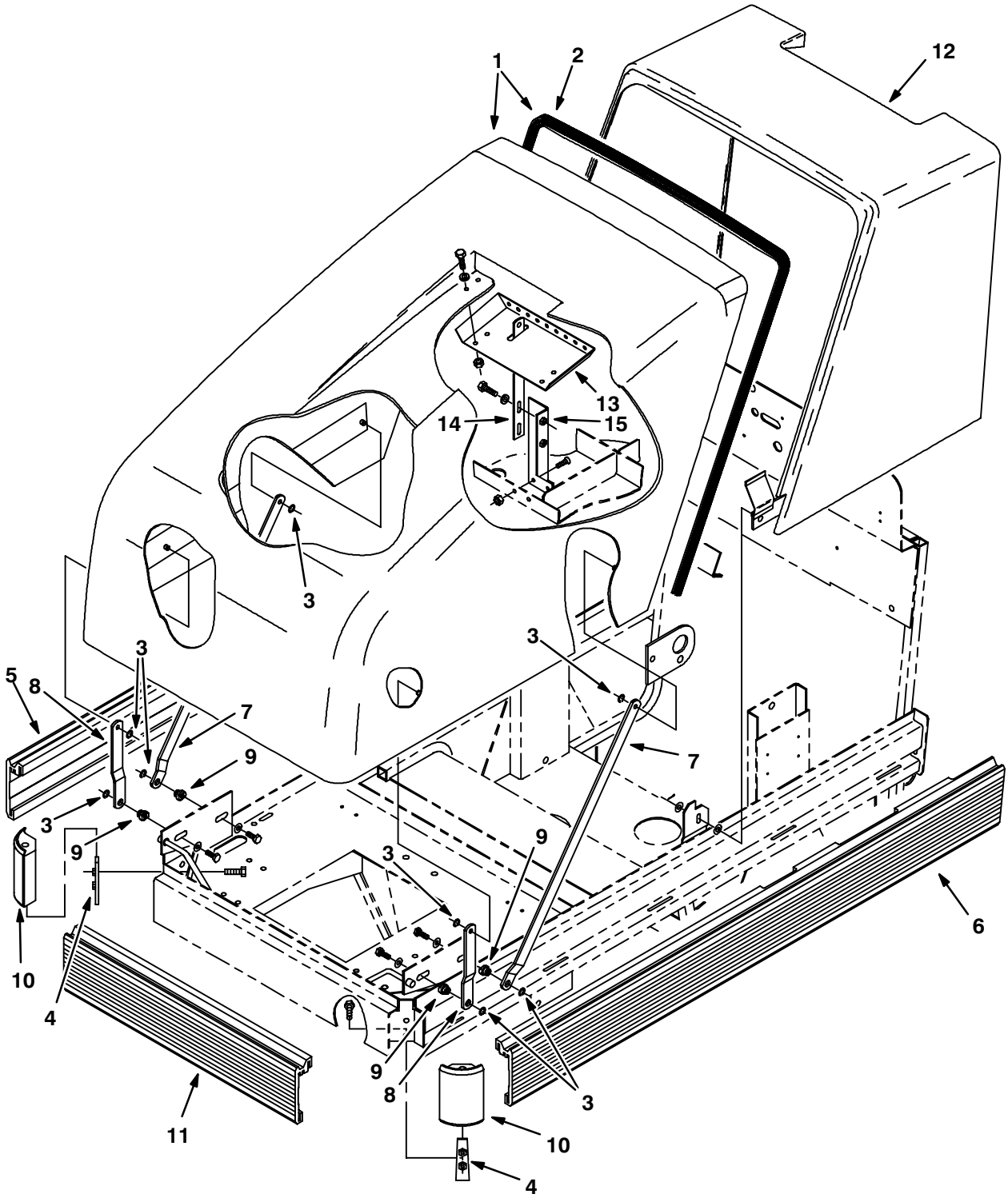
Fig. 2 – Replacement Brushes



05104/05105

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
	1	11682	(000000–)	Brush, Pre–Sweep, Polypropylene	1
∇	2	05725	(000000–)	Scrub Brush Assembly, Stiff Polypropylene	2
▲	3	14838	(000000–)	Spring, Brush Retaining	1
▲	4	24299	(000000–)	Bracket, Spring Retainer	1
∇		30241	(000000–)	Scrub Brush Assembly, Polypropylene	2
▲		14838	(000000–)	Spring, Brush, Retaining	1
▲		24299	(000000–)	Bracket, Spring, Retainer	1
∇		05724	(000000–)	Scrub Brush Assembly, Nylon	2
▲		14838	(000000–)	Spring, Brush Retaining	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇		05726	(000000–)	Scrub Brush Assembly, Abrasive	2
▲		14838	(000000–)	Spring, Brush Retaining	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇		05036	(000000–)	Scrub Brush Assembly, Bassine	1
▲		14838	(000000–)	Spring, Brush Retainer	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇		05038	(000000–)	Scrub Brush Assembly, Wire	2
▲		14838	(000000–)	Spring, Brush Retainer	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇	5	30216	(000000–)	Scrub Driver Pad Assembly, Polypropylene	2
▲	6	24299	(000000–)	Bracket, Retainer Spring	1
▲	7	14838	(000000–)	Spring, Brush Retaining	1
▲	8	15539	(000000–)	Adaptor, Brush	1
▲	9	11218	(000000–)	Spacer, Pad Holder	1
▲	10	19783	(000000–)	Holder, Pad	1
	11	63248–1	(000000–)	Pad, Stripper, Brown	2
		63248–2	(000000–)	Pad, Scrubber, Blue	2
		63248–3	(000000–)	Pad, Buffer, Red	2
		63248–4	(000000–)	Pad, Polish, White	2

Fig. 3 – Hood and Bumper Group

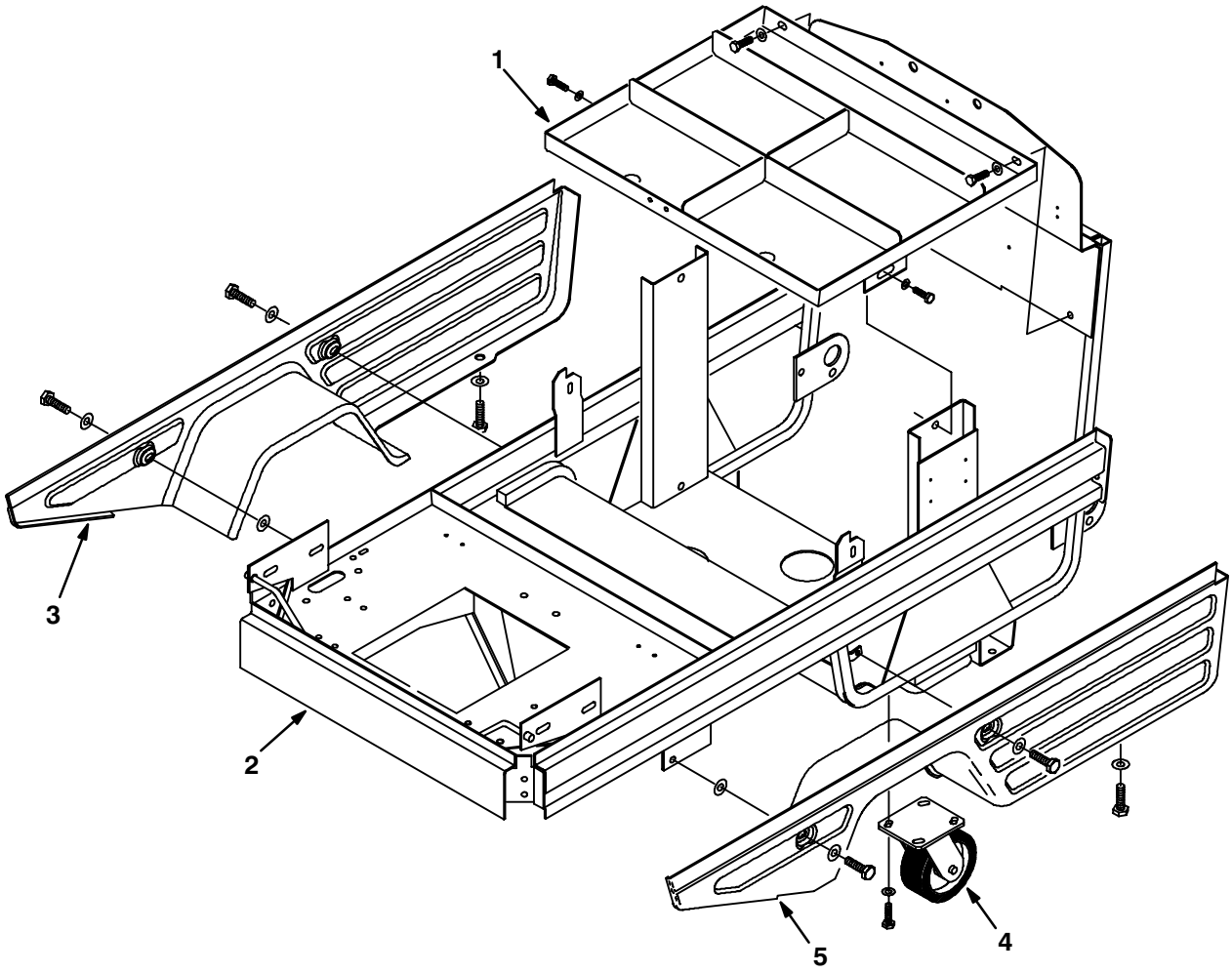


06331/06331

Fig. 3 – Hood and Bumper Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	28325	(020000–	)	Cover, Front, EE	1
▲	2	33360	(020000–	)	Seal	1
	3	05284	(020000–	)	Clip, Retainer, M10	8
	4	33454	(020000–	)	Plate, Mount	2
	5	33537	(020000–	)	Bumber, Side, R.H.	1
	6	33536	(020000–	)	Bumper, Side, L.H.	1
	7	05236	(020000–	)	Bar, Hinge Long	2
	8	05223	(020000–	)	Bar, Hinge Short	2
	9	05272	(020000–	)	Spacer, Hinge	4
	10	33407	(020000–	)	Block, Corner Frame	2
	11	05073	(020000–	)	Bumper, Front	1
	12	05081	(020000–	)	Cover, Rear	1
	13	28120	(020000–	)	Bracket, Hood	1
	14	28151	(020000–	)	Plate, Hood	1
	15	28154	(020000–	)	Bracket, Hood	1

Fig. 4 – Main Frame Group

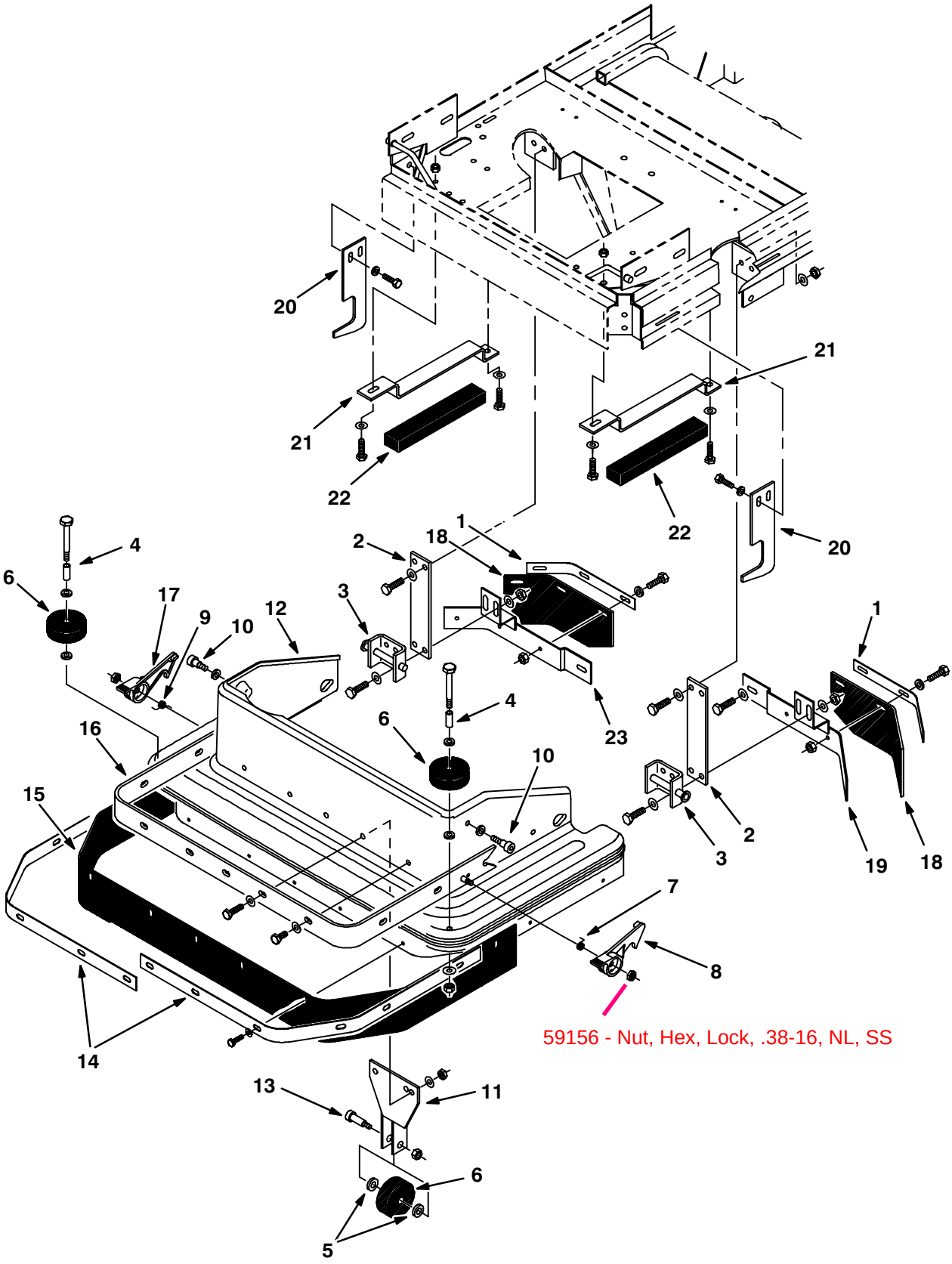


06338/06338

Fig. 4 – Main Frame Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	28163	(020000–)	Tray, Battery	1
2	33419	(020000–)	Frame, Main	1
3	24932	(020000–)	Panel, Lower, R.H.	1
4	65690	(020000–)	Caster	2
5	24931	(020000–)	Panel, Cover, L.H.	1

Fig. 5 – Front Shroud Group

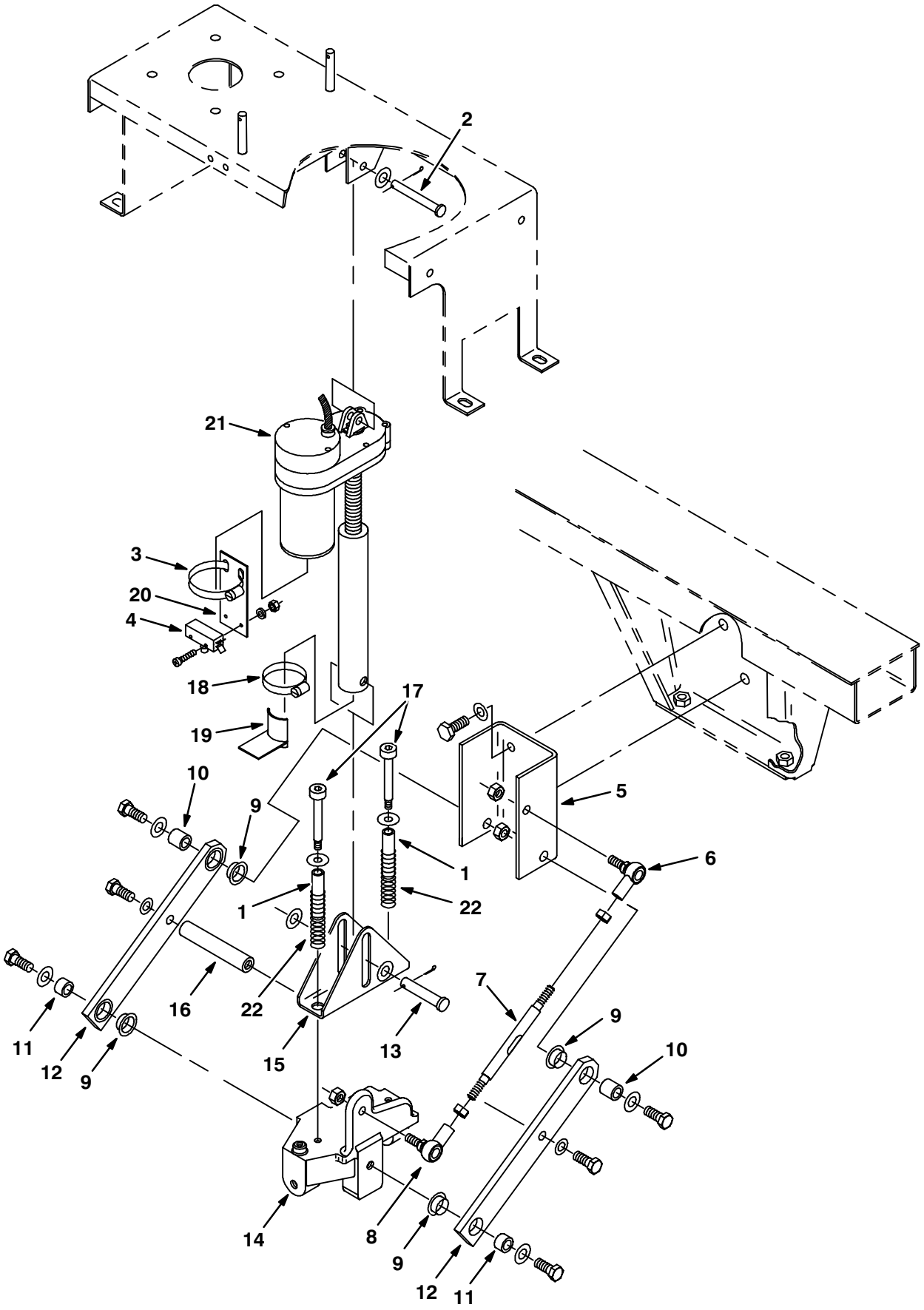


06332/06332

Fig. 5 – Front Shroud Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	33553	(020000–	)	Strip, Backup	2
	2	06108	(020000–	)	Spring	2
	3	05214	(020000–	)	Bracket, Shroud Mounting	2
∇		28497	(020000–	)	Scrub Shroud Replacement Kit	1
▲	4	33427	(020000–	)	Sleeve	2
▲	5	59633	(020000–	)	Bearing, Thrust, Fiberglide	2
▲	6	86800	(020000–	)	Wheel	3
▲	7	10927	(020000–	)	Spring, Torsion, L.H.	1
▲	8	11613	(020000–	)	Latch, Shroud, L.H.	1
▲	9	10928	(020000–	)	Spring, Torsion, R.H.	1
▲	10	36758	(020000–	)	Screw, Shoulder	2
▲	12	28495	(020000–	)	Panel, Scrub Shroud	1
▲	11	28365	(020000–	)	Bracket, Wheel	1
▲	13	86791	(020000–	)	Screw, Shoulder	1
▲	14	05244	(020000–	)	Strip, Skirt Retainer	2
▲	15	05241	(020000–	)	Skirt, Scrub Head	1
▲	16	05058	(020000–	)	Strap, Shroud	1
▲	17	11612	(020000–	)	Latch, Shroud, R.H.	1
	18	33566	(020000–	)	Skirt, Side	2
	19	33544	(020000–	)	Bracket, Skirt, L.H.	1
	20	24852	(020000–	)	Plate, Mount	2
	21	28082	(020000–	)	Bracket, Head Stop	2
	22	04832	(020000–	)	Pad, Head Stop	2
	23	33546	(020000–	)	Bracket, Skirt, R.H.	1

Fig. 6 – Scrub Head Lift Group

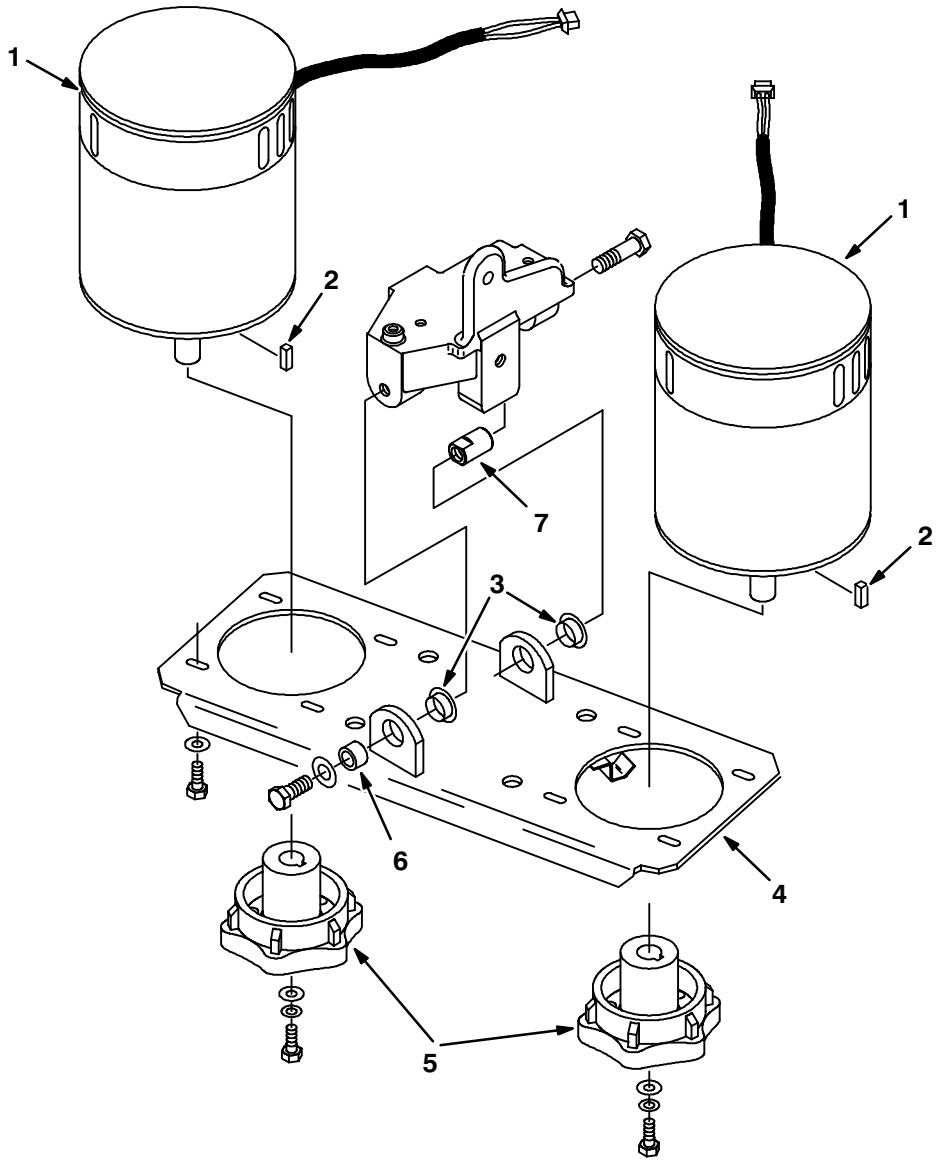


06333/06333

Fig. 6 – Scrub Head Lift Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	50682	(020000–)	Sleeve	2
2	29584	(020000–)	Pin, Clevis	1
3	14432	(020000–)	Clamp, Worm Drive	1
4	10982	(020000–)	Switch, Micro	1
5	04929	(020000–)	Bracket, Link Mount	1
6	05685	(020000–)	Rod End, M10, L.H.	1
7	04921	(020000–)	Rod, Adjusting	1
8	05686	(020000–)	Rod End, M10, R.H.	1
9	04928	(020000–)	Bearing, Flange	4
10	05019	(020000–)	Sleeve	2
11	04927	(020000–)	Sleeve	2
12	04920	(020000–)	Bar, Pivot	2
13	11211	(020000–)	Pin, Clevis	1
14	04924	(020000–)	Pivot, Scrub Head	1
15	10957	(020000–)	Bracket, Head Lift	1
16	04942	(020000–)	Spacer, Rod	1
17	10964	(020000–)	Screw, Shoulder	2
18	11399	(020000–)	Clamp, Worm Drive	1
19	10954	(020000–)	Bracket, Switch	1
20	10951	(020000–)	Bracket, Switch	1
21	27838	(020000–)	Actuator, 36 V, EE	1
22	45261	(020000–)	Spring, Compression	2

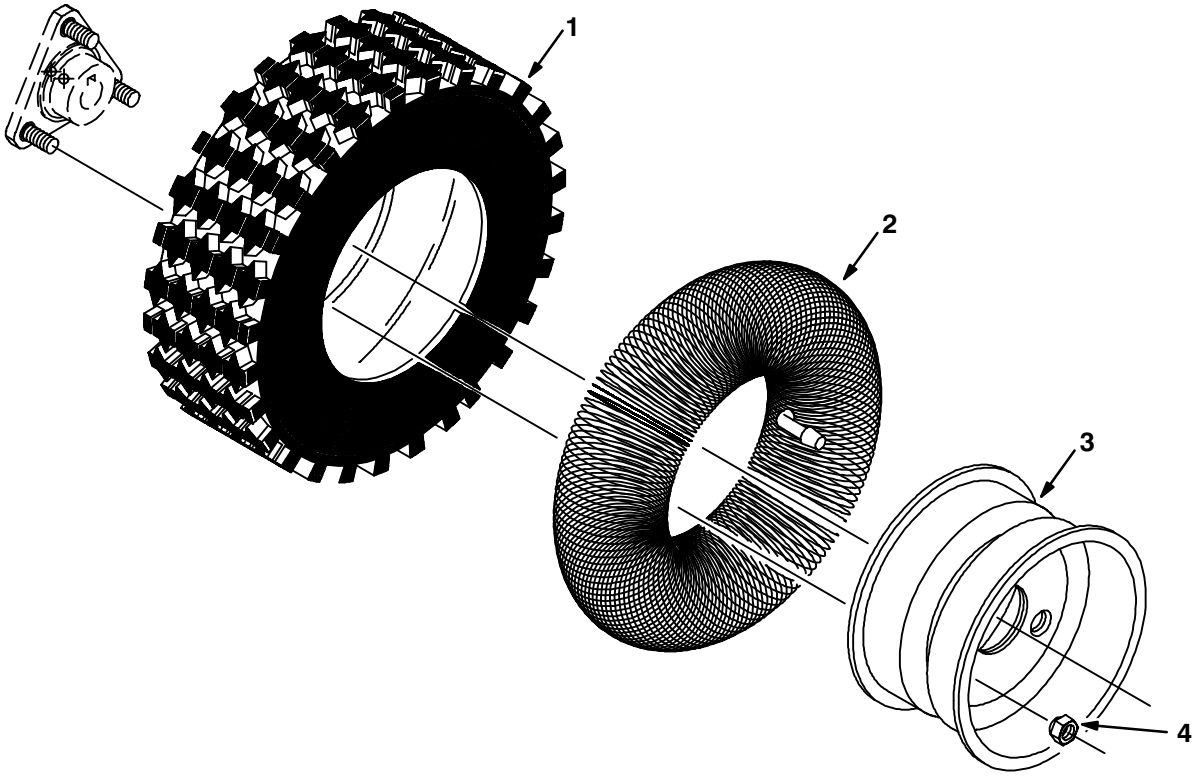
Fig. 7 – Scrub Head Group



06334/05093

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	27836	(020000–	)	Motor, EE	2
2	00926	(020000–	)	Key, Square	2
3	04928	(020000–	)	Bearing, Flange	2
4	05076	(020000–	)	Plate, Brush Drive	1
5	14841	(020000–	)	Hub, Brush Drive	2
6	04927	(020000–	)	Sleeve	1
7	05612	(020000–	)	Sleeve, Scrub Head Rear	1

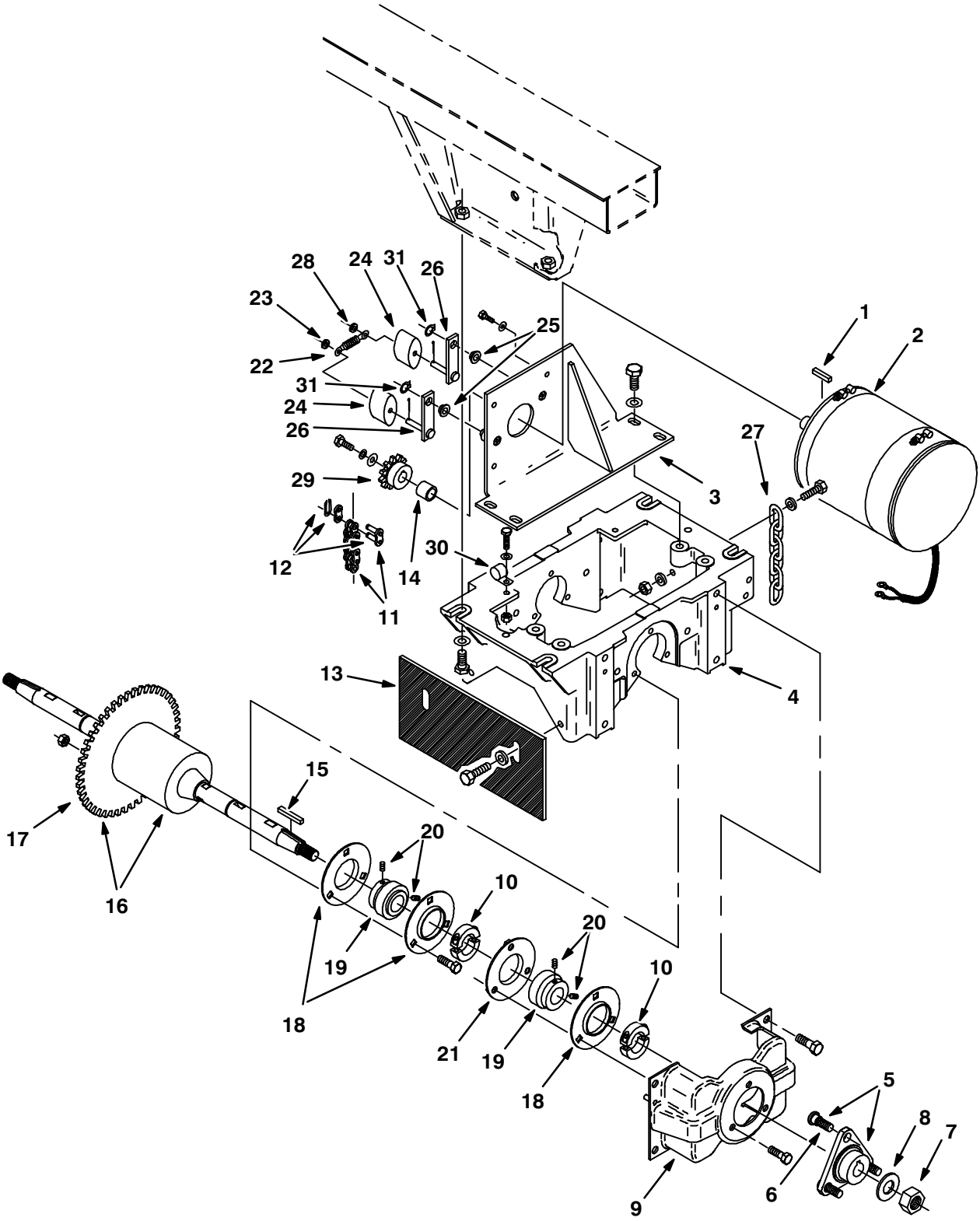
Fig. 8 – Tire and Rim Assembly



04780/04200

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		61597	(020000–	)	Tire and Rim Assembly	2
▲	1	61596	(020000–	)	Tire	1
▲	2	04658	(020000–	)	Tube, Inner	1
▲	3	04657	(020000–	)	Rim	1
	4	11109	(020000–	)	Nut, Wheel	6

Fig. 9 – Single Drive Group



06335/04194

Fig. 9 – Single Drive Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	00926	(020000–	)	Key, Square	1
	2	27837	(020000–	)	Motor, Electric, EE	1
	3	24552	(020000–	)	Plate, Motor Mounting	1
	4	05191	(020000–	)	Housing, Drive Wheel Support	1
∇	5	05606	(020000–	)	Hub Assembly, Single Drive	2
▲	6	11117	(020000–	)	Stud, Wheel	3
	7	33342	(020000–	)	Nut, Nylon Hex, M16	2
	8	04400	(020000–	)	Washer, M16	2
	9	11088	(020000–	)	Bracket, Support Bearing	2
	10	05696	(020000–	)	Collar, Clamping	4
∇	11	61416	(020000–	)	Chain and Link Assembly	1
▲	12	28272	(020000–	)	Link, Roller Chain	1
	13	24645	(020000–	)	Skirt	1
	14	04744	(020000–	)	Spacer	1
	15	00927	(020000–	)	Key, Square	2
∇	16	24682	(020000–	)	Differential and Sprocket Replacement Kit	1
▲	17	11127	(020000–	)	Sprocket	1
▲	18	36190	(020000–	)	Flange	6
▲∇	19	24684	(020000–	)	Bearing Replacement Kit	4
▲▲	20	79599	(020000–	)	Screw, Nylon Set	2
▲	21	04746	(020000–	)	Flange, Bearing	2
	22	05605	(020000–	)	Wire, Spring, Long	1
	23	04720	(020000–	)	Spring, Compression	1
	24	04671	(020000–	)	Puck, Chain Tensioner	2
	25	15877	(020000–	)	Bearing, Flange	2
	26	24547	(020000–	)	Arm, Chain Tensioner	2
	27	28280	(020000–	)	Chain, Static	1
	28	05604	(020000–	)	Wire, Spring, Short	1
	29	04721	(020000–	)	Sprocket	1
	30	40678–1	(020000–	)	Clamp, Cable	1
	31	24555	(020000–	)	E–Ring, External	2

Fig. 10 – Solution and Recovery Tanks Group

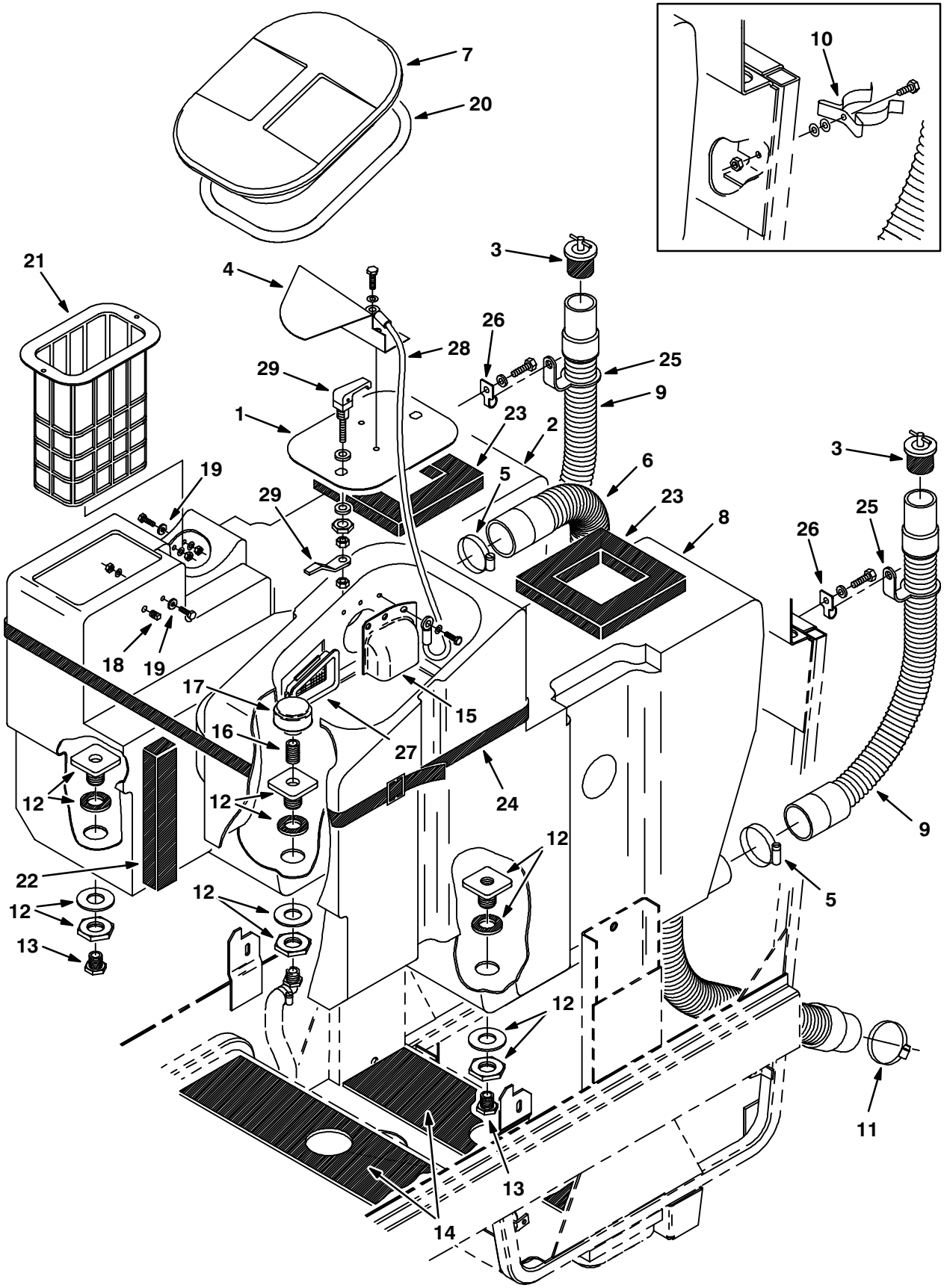


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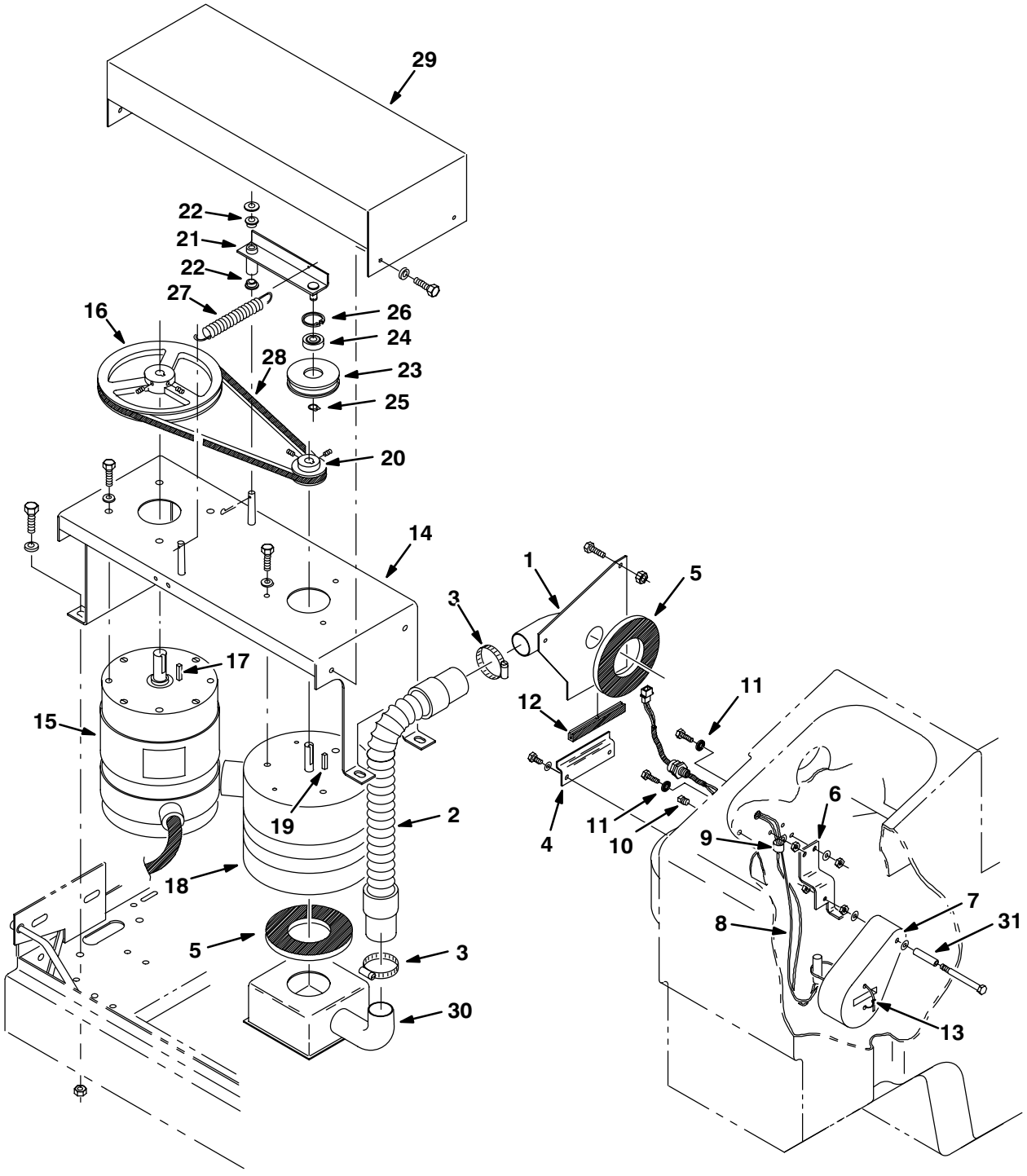
Fig. 10 – Solution and Recovery Tanks Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	65552	(020000–022534	)	Baffle Kit	1
1	65551	(022535–	)	Plate, Baffle	1
2	05016	(020000–	)	Tank, Solution	1
3	222396	(020000–	)	Stopper Assembly	2
4	11746	(020000–	)	Baffle, Tank	1
5	22297	(020000–	)	Clamp, Worm Drive	3
6	05216	(020000–	)	Hose, Squeegee	1
7	06137	(020000–	)	Cover, Recovery Tank	1
8	05017	(020000–	)	Tank Recovery	1
9	05127	(020000–	)	Hose, Drain	2
10	67004	(020000–020968	)	Clip, Finger Grip	2
11	33344	(020000–	)	Clamp, Worm Drive	1
12	65566	(020000–	)	Fitting, Straight	3
13	75611	(020000–	)	Fitting, Plug	2
14	05675	(020000–	)	Pad, Tank	2
15	11750	(020000–	)	Baffle, Vacuum Fan	1
16	69784	(020000–	)	Fitting, Nipple	1
17	05218	(020000–	)	Strainer, Solution Tank	1
18	56119	(020000–	)	Fitting, Plug	1
19	76426	(020000–	)	Washer, Sealing	3
20	05165	(020000–	)	Seal, Recovery Tank Lid	1
21	43516A	(020000–	)	Basket, Soap	1
22	04832	(020000–	)	Pad, Foam	1
23	57828	(020000–	)	Foam	2
24	04836	(020000–	)	Strap, Poly	1
25	24663	(020969–	)	Strap, Drain Hose	2
26	24638	(020969–	)	Clip, Drain Hose	2
27	05089	(020000–	)	Screen	1
28	19676	(020000–	)	Lanyard	1
29	65695	(022535–	)	Latch, Lift and Turn, Adjustable	2

Fig. 11 – Vacuum Fan Group

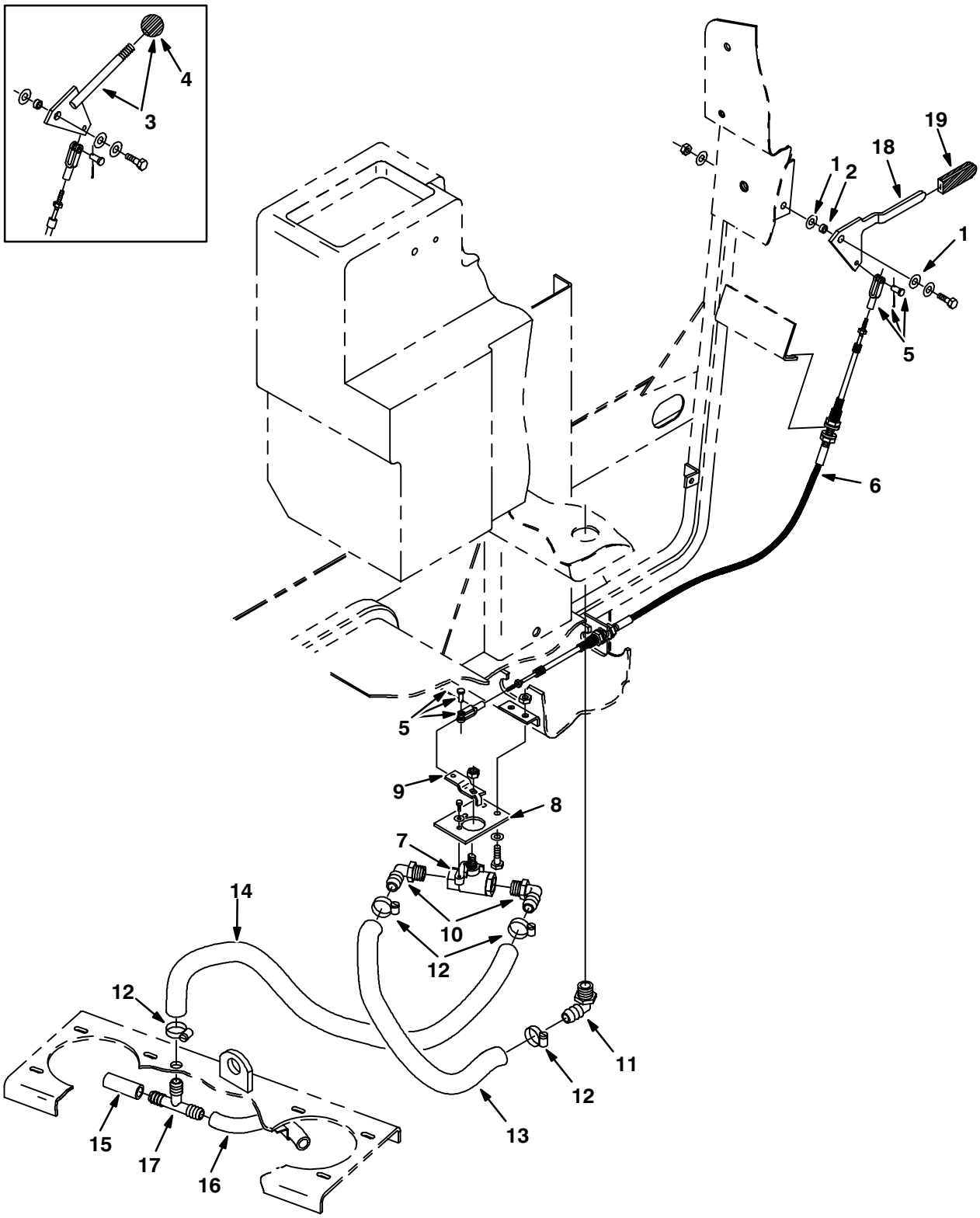


06330/06330

Fig. 11 – Vacuum Fan Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	60171	(020000–)	Plate and Label Assembly, Tank	1
2	27916	(020000–)	Hose, Vacuum Fan	1
3	11531	(020000–)	Clamp, Worm Drive	2
4	06146	(020000–)	Bracket, Mounting	1
5	10912	(020000–)	Seal, Vacuum Fan	2
6	05567	(020000–)	Bracket, Water Level Control	1
7	65683	(020000–)	Float, Water Level	1
8	28346	(020000–)	Mercury Switch Assembly	1
9	33584	(020000–)	Clamp, Cable	1
10	56119	(020000–)	Fitting, Plug	1
11	76426	(020000–)	Washer, Sealing	3
12	10911	(020000–)	Isolator, Vacuum Fan	1
13	49266	(020000–)	Tie, Cable	1
14	27901	(020000–)	Plate, Actuator Mount	1
15	27832	(020000–)	Motor, Electric, EE	1
16	27885	(020000–)	Sheave	1
17	00912	(020000–)	Key, Square	1
18	15644	(020000–)	Blower, Vacuum Fan	1
19	00954	(020000–)	Key, Square	1
20	27884	(020000–)	Sheave	1
21	27909	(020000–)	Arm, Idler	1
22	05582	(020000–)	Bearing, Flange	2
23	45430	(020000–)	Pulley, Idler	1
24	01845	(020000–)	Bearing, Ball	1
25	01543	(020000–)	Ring, Retaining, External	1
26	20020	(020000–)	Ring, Retaining, Internal	1
27	41698	(020000–)	Spring, Tension	1
28	45412	(020000–)	V–Belt	1
29	27907	(020000–)	Guard, Belt	1
30	27906	(020000–)	Duct, Intake	1
31	78551	(020000–)	Tube	1

Fig. 12 – Solution Control Group

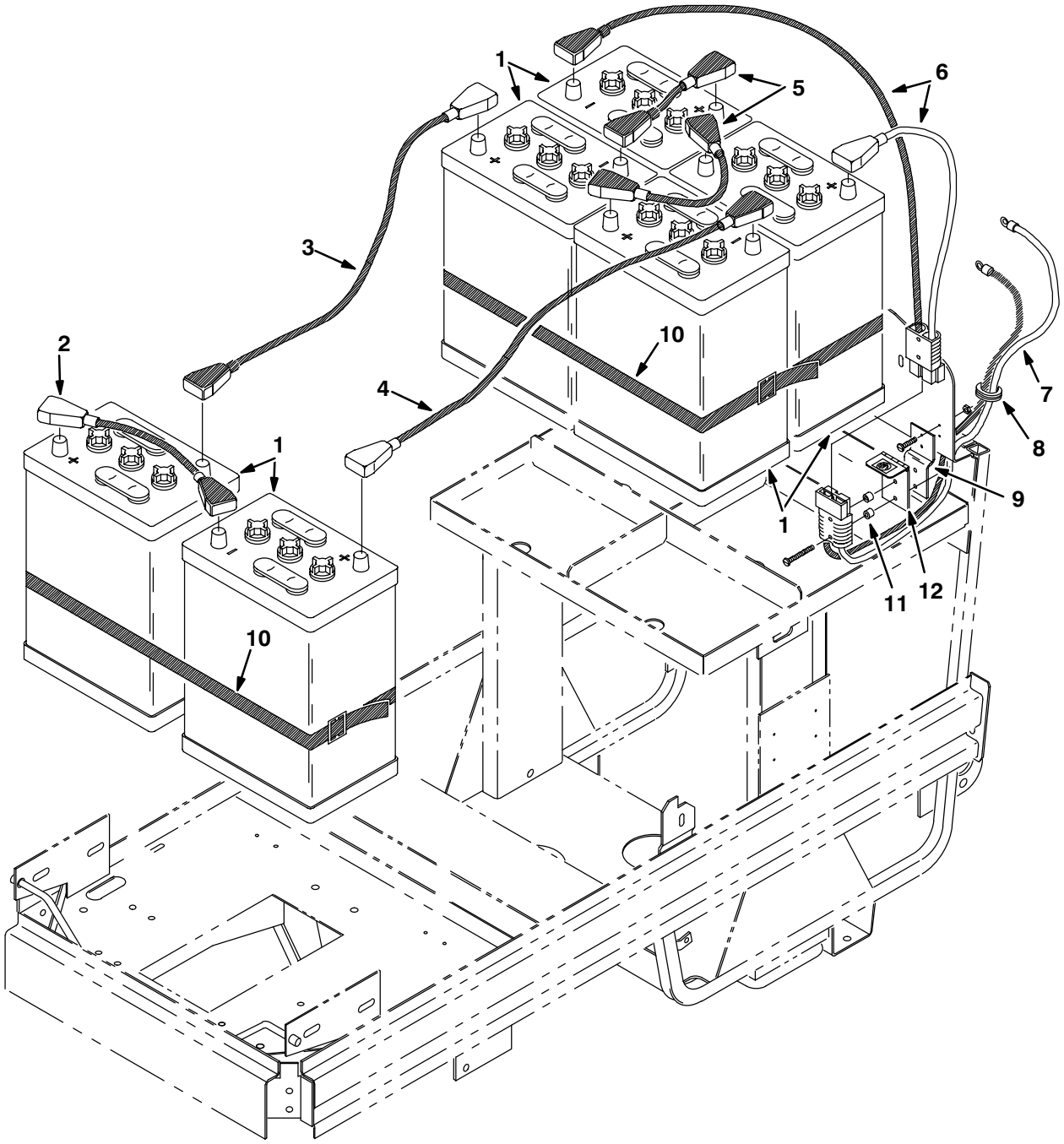


05037/04198

Fig. 12 – Solution Control Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	43611	(020000–)	Washer, Nylon	2
2	63342	(020000–)	Sleeve	1
3	33441	(020000–020635)	Water Handle Kit	1
4	26565	(020000–020635)	Knob	1
5	27880	(020000–)	Yoke Assembly	2
6	05670	(020000–)	Cable, Push Pull	1
7	12083	(020000–)	Water, Valve	1
8	05294	(020000–)	Bracket, Valve Mounting	1
9	05669	(020000–)	Arm, Water Valve	1
10	63244–1	(020000–)	Fitting, Barbed Elbow	2
11	63244–3	(020000–)	Fitting, Barbed Elbow	1
12	54333	(020000–)	Clamp, Worm Drive	4
13	05714	(020000–)	Hose, PVC	1
14	05712	(020000–)	Hose, Clear Vinyl	1
15	05711	(020000–)	Hose, Clear Vinyl	1
16	05717	(020000–)	Hose, Clear Vinyl	1
17	63245–1	(020000–)	Fitting, Barbed Tee	1
18	33438	(020636–)	Lever, Control	1
19	33439	(020636–)	Grip, Handle	1

Fig. 13 – Battery Group

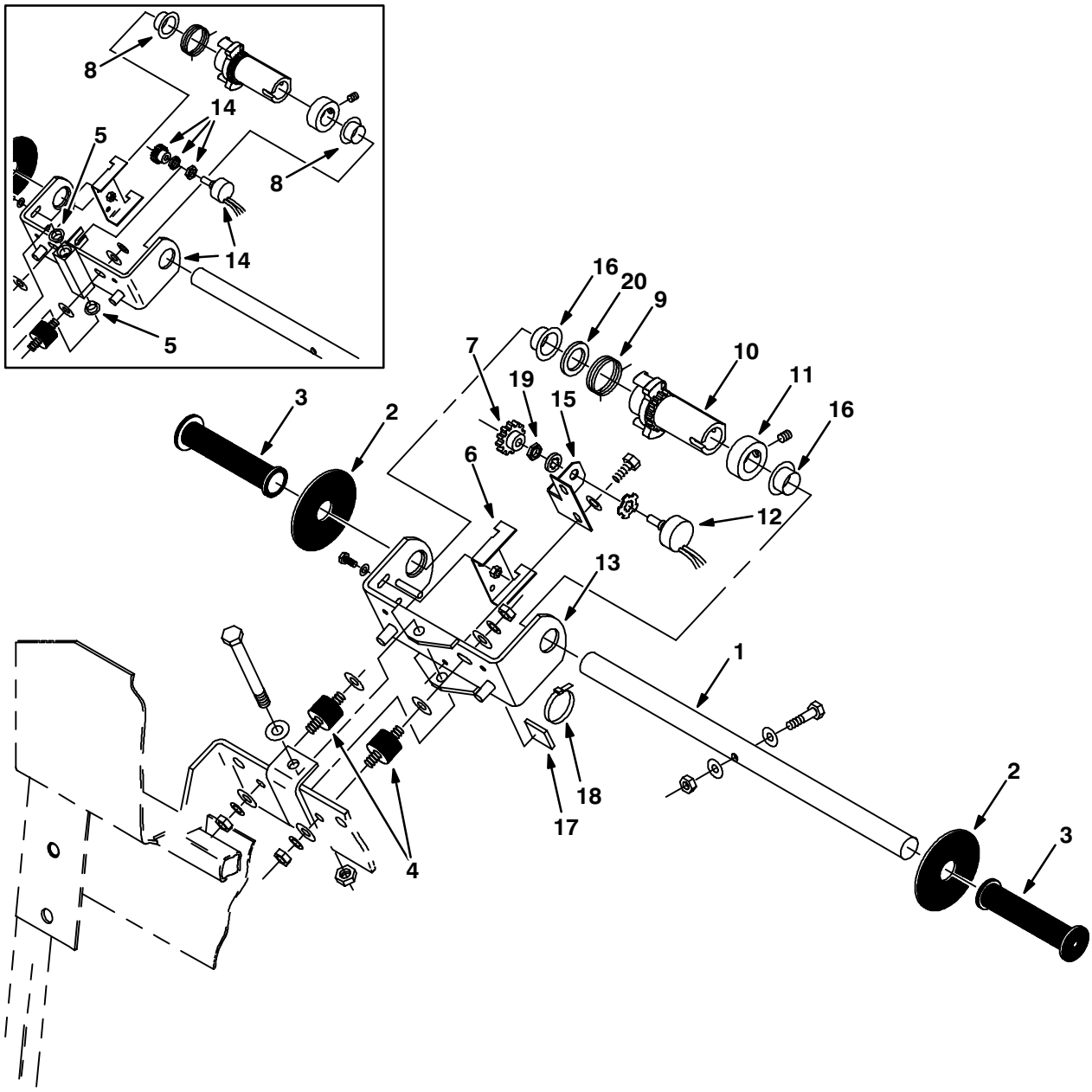


06336/06336

Fig. 13 – Battery Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	10138	(020000–	)	Battery, 6 V, 305 Ah, Wet	6
1	10140	(020000–	)	Battery, 6 V, 305 Ah, Dry (International Only)	6
2	05251	(020000–	)	Cable, Battery	1
3	63757	(020000–	)	Cable, Battery	1
4	05252	(020000–	)	Cable, Battery	1
5	63755	(020000–	)	Cable, Battery	2
6	60097	(020000–	)	Harness, Battery Wire	1
7	60098	(020000–	)	Harness, Machine Wire	1
8	10632	(020000–	)	Grommet, Rubber	1
9	60095	(020000–	)	Bracket, Connector	1
10	04836	(020000–	)	Strap, Poly, Webbing	2
11	01275	(020000–	)	Sleeve	2
12	65745	(020000–	)	Hinge, W/Label, SB175	1

Fig. 14 – Steering Control Group

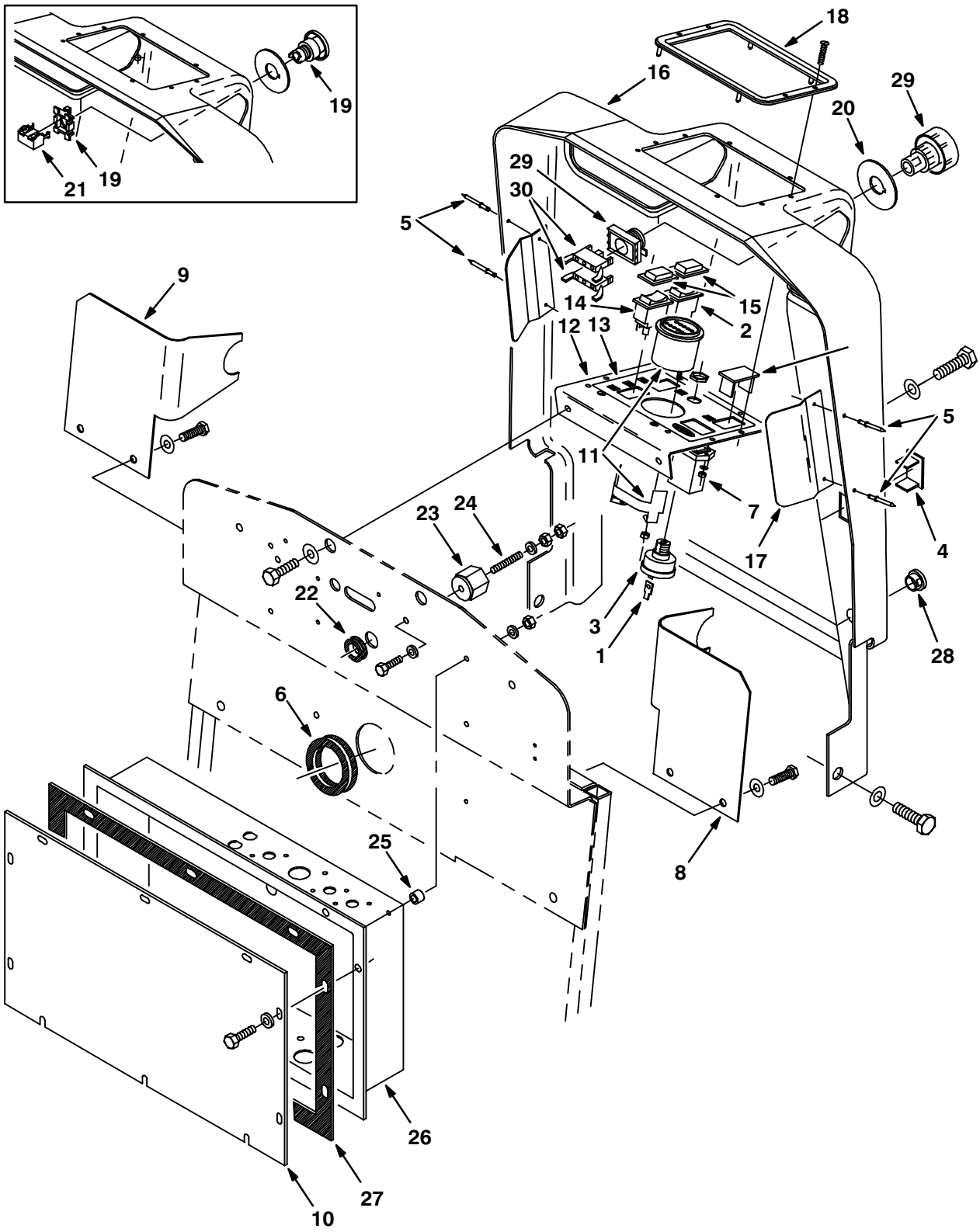


04798/04195

Fig. 14 – Steering Control Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04760	(020000–)	Handle, Speed Control	1
2	06208	(020000–)	Washer, Neoprene	2
3	04765	(020000–)	Grip, Handle	2
4	05611	(020000–)	Isolator, Vibration	2
5	05582	(020000–020373)	Bearing, Flange	2
6	04767	(020000–)	Stop, Spring	1
7	27974	(020374–)	Gear	1
8	04761	(020000–020373)	Bearing, Flange	2
9	04762	(020000–)	Spring, Torsion Centering	1
10	04763	(020000–)	Hub And Gear	1
11	04766	(020000–)	Collar, Shaft	1
12	27955	(020374–)	Potentiometer Replacement Kit	1
13	27934	(020374–)	Bracket, Handle	1
14	27971	(020000–020373)	Potentiometer Replacement Kit	1
15	27973	(020374–)	Bracket, Potentiometer	1
16	27937	(020374–)	Bearing, Flange	2
17	55248	(020000–)	Mount, Cable Tie	1
18	49266	(020000–)	Tie, Cable	1
19	86730	(020374–)	Nut, Hex, Thin	1
20	82226	(020000–)	Washer	1

Fig. 15 – Rear Electric Panel Group

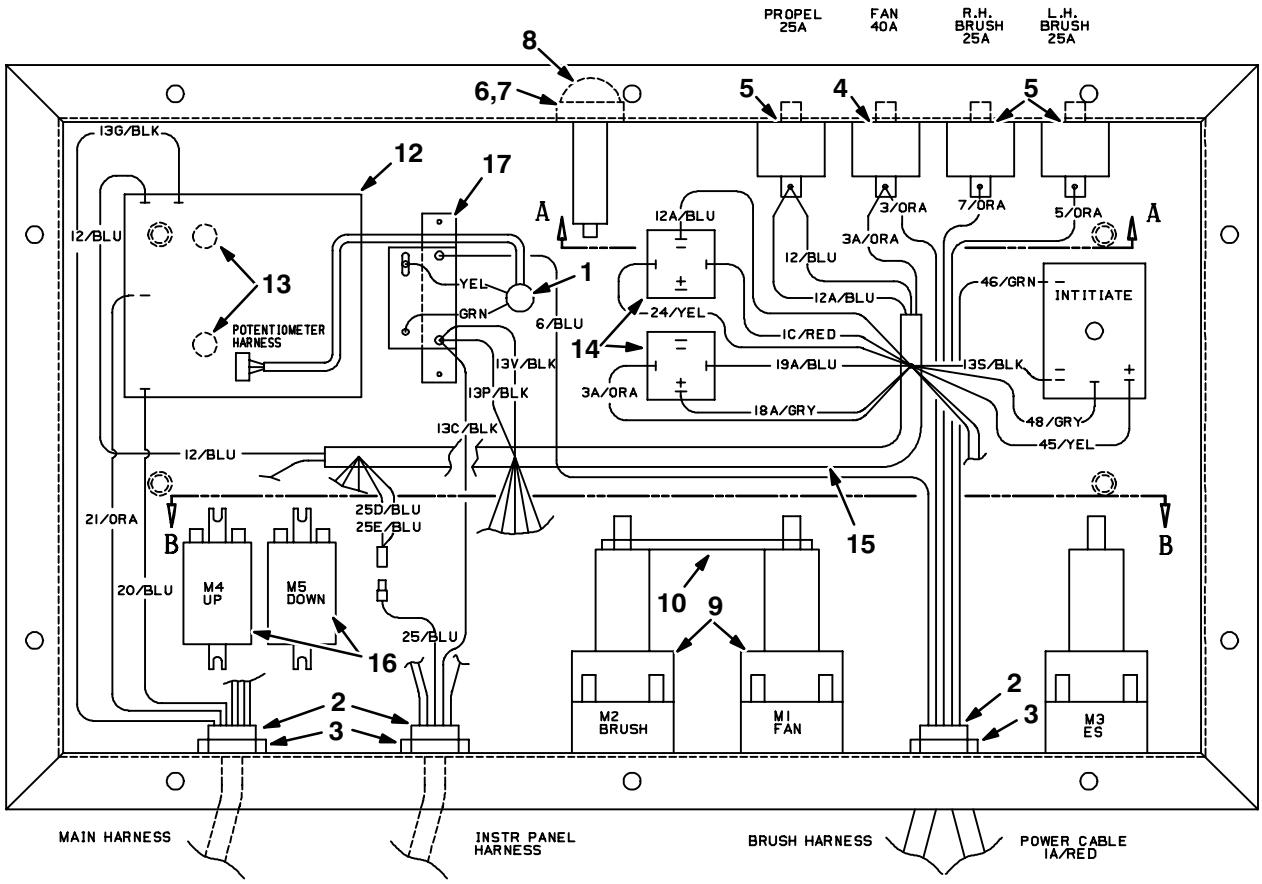


06337/06337

Fig. 15 – Rear Electric Panel Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	68106	(020000–	)	Tab, Terminal	2
	2	65554	(020000–	)	Switch, Progressive Rocker	1
∇	3	10891	(020000–	)	Switch Assembly, Key	1
▲		87865	(020000–	)	Key Set, Switch	1
	4	57772	(020000–	)	Plate, Cover	2
	5	56799	(020000–	)	Rivet, Pop	4
	6	10632–19	(020000–	)	Grommet	1
	7	31988	(020000–	)	Hourmeter	1
	8	27856	(020000–	)	Plate, Mounting, L.H.	1
	9	27862	(020000–	)	Plate, Mounting, R.H.	1
	10	27825	(020000–	)	Plate, Cover	1
	11	11488	(020000–	)	Brush Pressure/Battery Gauge	1
	12	27918	(020000–	)	Panel, Instrument	1
	13	10960	(020000–	)	Label, Instrument Panel	1
	14	65559	(020000–	)	Switch, Rocker, DPDT	1
	15	57807	(020000–	)	Cover, Rocker Switch Seal	2
	16	65598	(020000–	)	Panel and Label Assembly, Rear	1
	17	05027	(020000–	)	Guide, Cover, Rear	2
	18	33492	(020000–	)	Bezel, Touch Panel	1
	19	28429	(020000–022793	)	Switch, Push Button	1
	20	28428	(020000–	)	Plate, Stop Button	1
	21	11608	(020000–022793	)	Contacts, Switch	2
	22	10632–9	(020000–	)	Grommet	1
	23	76062	(020000–	)	Insulator	1
	24	41702	(020000–	)	Rod, Threaded	1
	25	40282	(020000–	)	Sleeve	4
	26	60170	(020000–	)	Box and Label Assembly, Electrical	1
	27	27826	(020000–	)	Gasket, Electrical Box	1
	28	65584	(020000–	)	Plugbutton	1
	29	65664	(022794–	)	Switch, Push Button	1
	30	65665	(022794–	)	Contacts, Switch	2

Fig. 16 – Electrical Box Group, EE



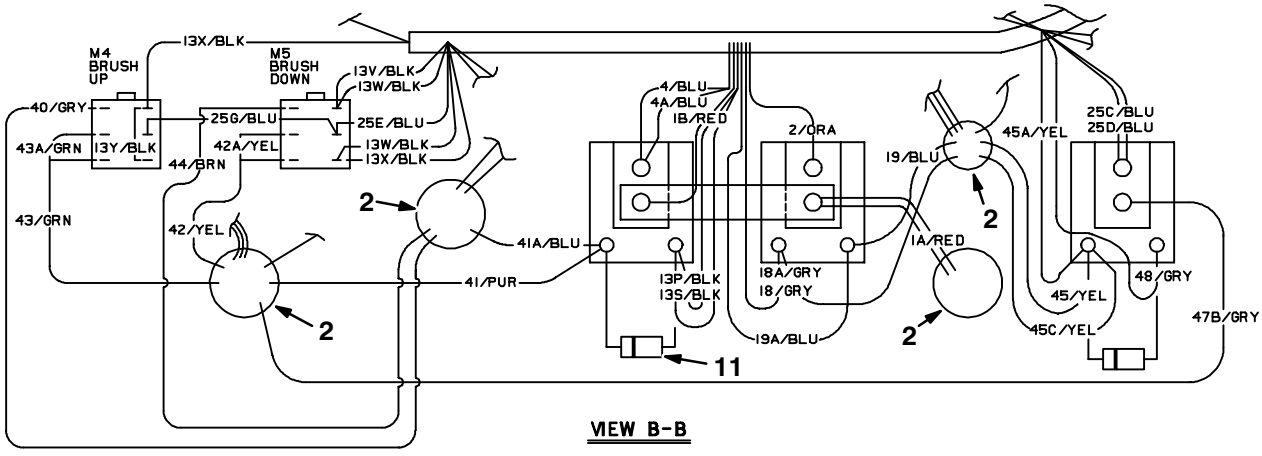
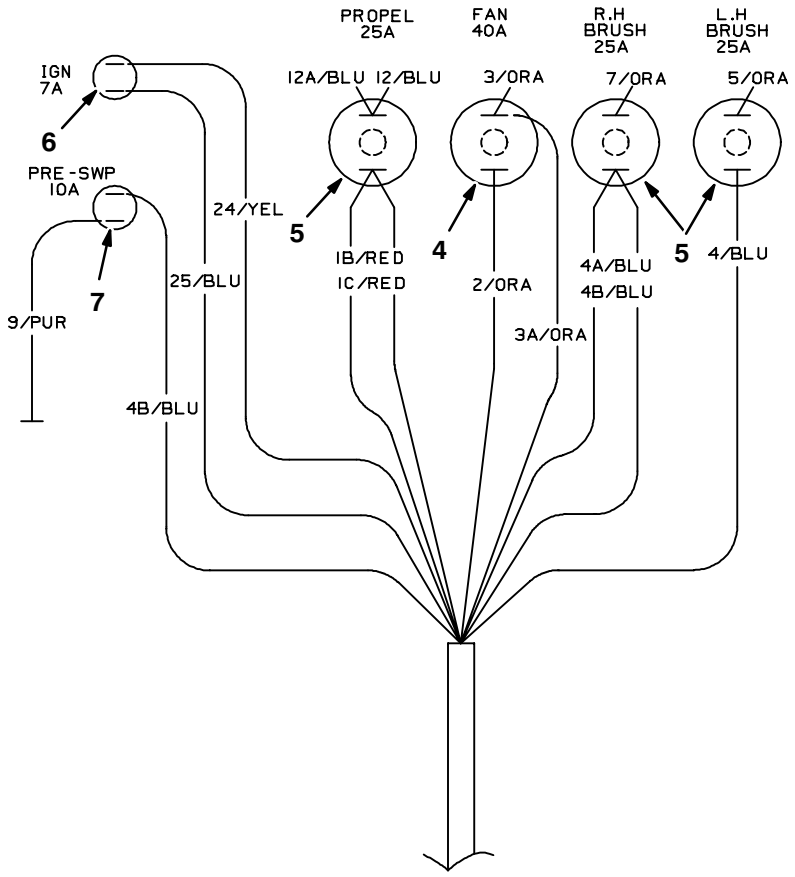


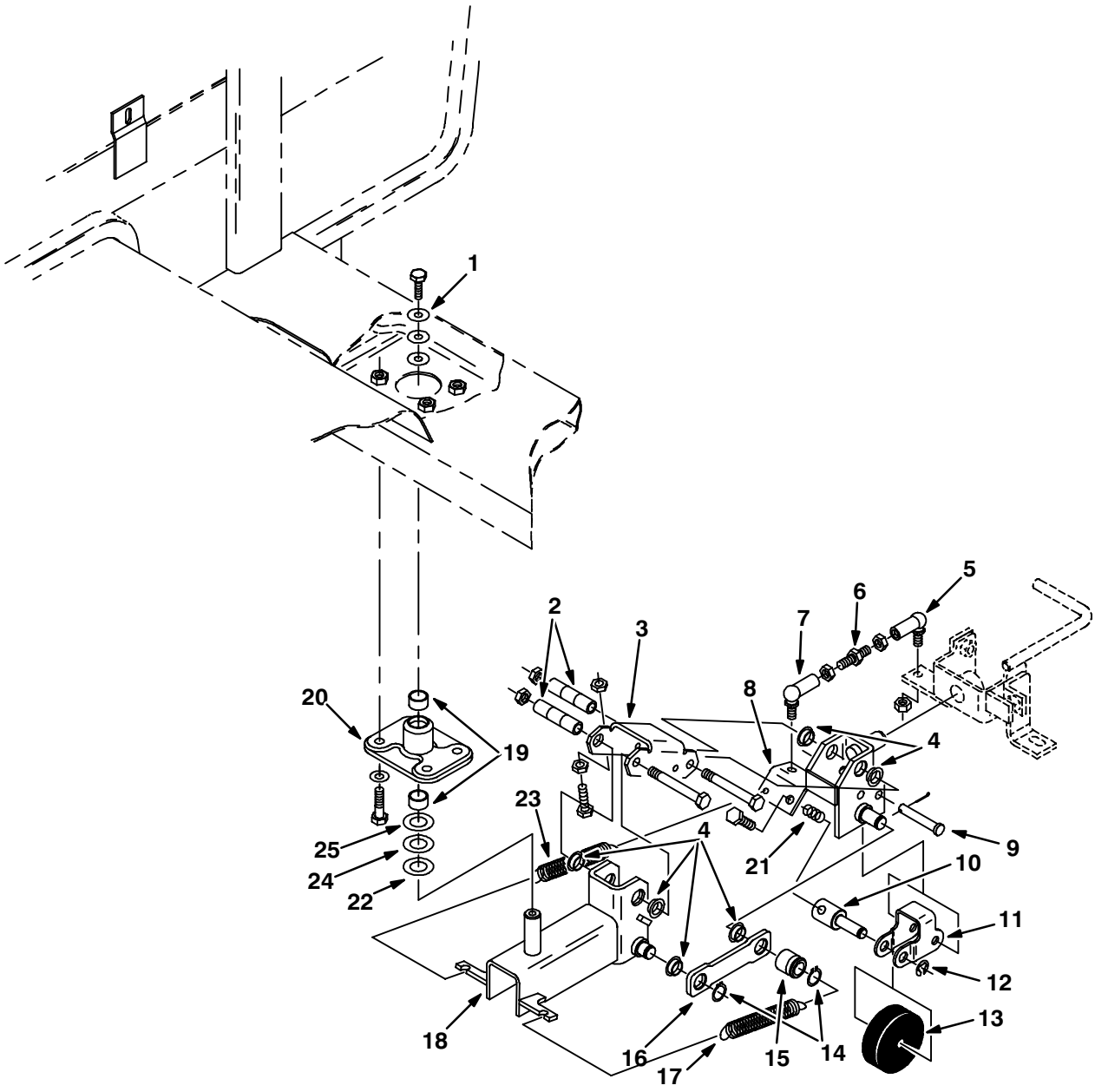
Fig. 16 – Electrical Box Group, EE



06340/06340

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	27946	(020000–	)	Grommet	1
2	16651	(020000–	)	Connector, Water Tight	4
3	18217	(020000–	)	Nut, Lock	4
4	15740	(020000–	)	Breaker, Circuit, 40 A	1
5	28338	(020000–	)	Breaker, Circuit, 25 A	3
6	87977	(020000–	)	Breaker, Circuit, 7 A	1
7	57164	(020000–	)	Breaker, Circuit, 10 A	1
8	57751	(020000–	)	Boot, Circuit Breaker	2
9	04685	(020000–	)	Contactor, SPST	2
10	10967	(020000–	)	Busbar, Relay	1
11	32234	(020000–	)	Diode	1
12	27963	(020000–	)	Controller Kit, Single	1
13	65742	(020000–	)	Sleeve	2
14	10962	(020000–	)	Diode, Bridge	2
15	27819	(020000–	)	Harness, Wire, Electrical Box	1
16	86366	(020000–	)	Relay, SPDT	2
17	10973	(020000–	)	Shunt	1

Fig. 17 – Rear Squeegee Link Group

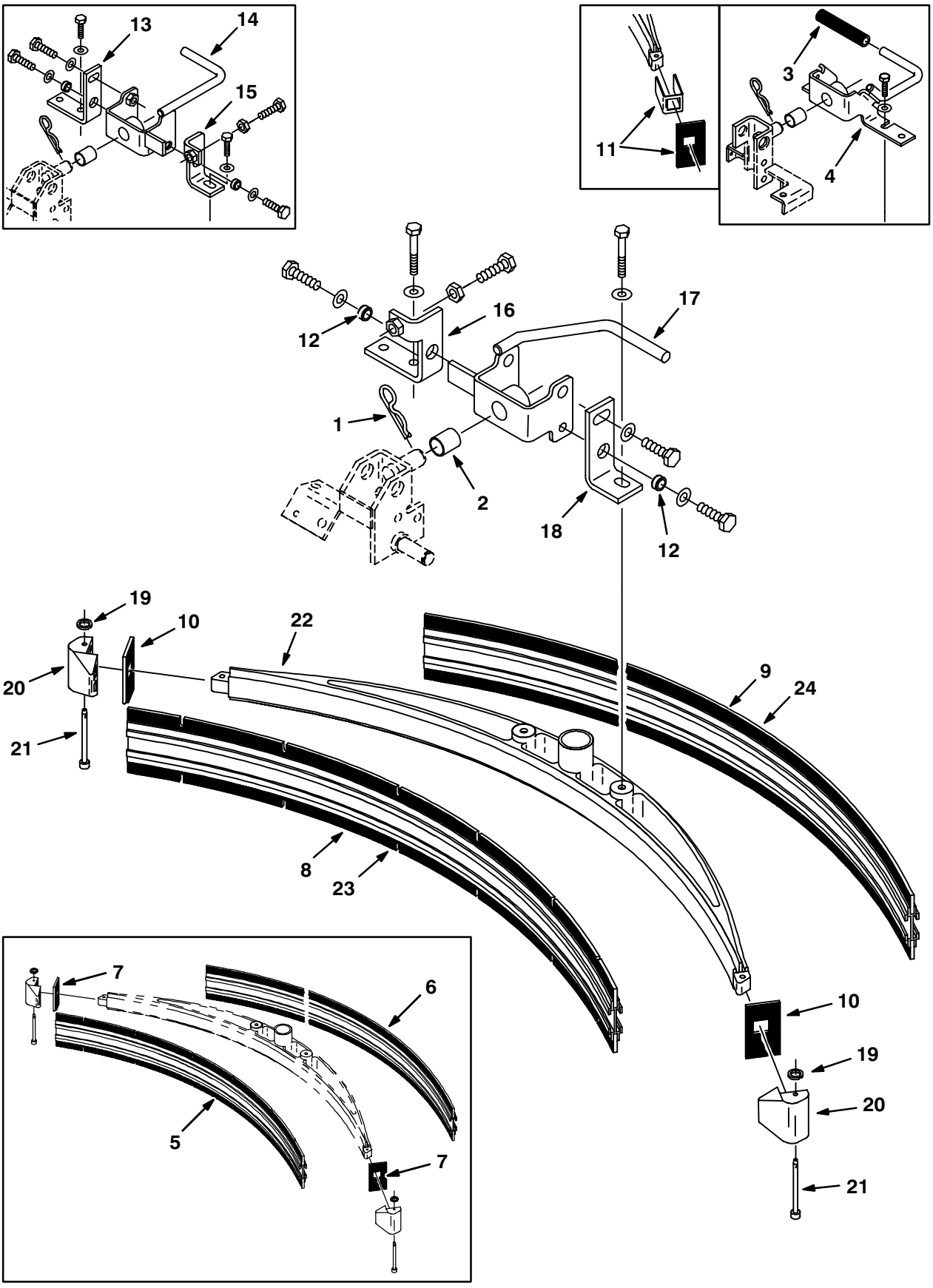


05485/04219

Fig. 17 – Rear Squeegee Link Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	05624	(020000–	)	Washer	1
2	05145	(020000–	)	Sleeve, Squeegee Lift	2
3	33385	(020294–	)	Bracket, Squeegee Lift	1
4	04843	(020000–	)	Bearing, Flange	6
5	63282	(020000–	)	Ball Joint, R.H.	1
6	11676	(020000–	)	Stud, Adjustment	1
7	82962	(020000–	)	Ball Joint, L.H.	1
8	33365	(020294–	)	Bracket, Squeegee Lift	1
9	33355	(020294–	)	Pin, Clevis	1
10	33379	(020294–	)	Axle, Caster Adjustment	1
11	33499	(020294–	)	Bracket, Caster	1
12	05284	(020294–	)	Clip, Retainer	1
13	86800	(020294–	)	Wheel	1
14	33373	(020294–	)	Ring, Retainer	2
15	33358	(020294–	)	Retainer, Spring	2
16	33371	(020294–	)	Link, Connecting	1
17	33404	(020294–	)	Spring, Tension	1
18	33390	(020294–	)	Bracket, Squeegee, Pivot	1
19	64377	(020000–	)	Bearing, Journal	2
20	05099	(020000–	)	Flange, Squeegee Mounting	1
21	33498	(020294–	)	Spring	1
22	64489	(020294–	)	Washer	–
23	33372	(020294–	)	Spring, Tension	1
24	40847–1	(020000–	)	Shim	–
25	04846	(020000–	)	Washer, Thrust	1

Fig. 18 – Rear Squeegee Group



04796/04220

Fig. 18 – Rear Squeegee Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	55094	(020000–	)	Pin, Hair Cotter	1
	2	04844	(020000–	)	Bearing, Journal	1
	3	11372	(020000–020293	)	Tube, Rubber	1
	4	10956	(020000–020293	)	Bracket, Squeegee Pivot	1
∇		11485	(020000–020744	)	Squeegee Blade Kit, Short	1
▲	5	04916	(020000–020744	)	Squeegee Blade Assembly, Front	1
▲	6	04919	(020000–020744	)	Squeegee Blade Assembly, Rear	1
▲	7	33437	(020000–020744	)	Blade, Squeegee End	2
∇		24687	(020745–	)	Squeegee Blade Kit, Long	1
▲	8	33424	(020745–	)	Squeegee Blade Assembly, Front	1
▲	9	33354	(020745–	)	Squeegee Blade Assembly, Rear	1
▲	10	11283	(020745–	)	Blade, Squeegee End	2
	11	27952	(020000–020558	)	Squeegee End Replacement Kit (For both sides)	1
	12	33369	(020294–	)	Sleeve, Squeegee	2
	13	33378	(020294–021103	)	Bracket, Adjustment, R.H.	1
	14	33393	(020294–021103	)	Bracket, Squeegee Mounting	1
	15	33377	(020294–021103	)	Bracket, Adjustment, L.H.	1
	16	04819	(021104–	)	Bracket, Adjustment, R.H.	1
	17	04816	(021104–	)	Bracket, Squeegee Mounting	1
	18	04808	(021104–	)	Bracket, Adjustment, L.H.	1
	19	49708	(020000–	)	Ring, Split	2
	20	04752	(020000–	)	Bumper, Squeegee	2
	21	33403	(020000–	)	Pin, Clevis	2
	22	24633	(020000–	)	Body, Squeegee	1
	23	78546	(020745–	)	Squeegee Blade Assembly, Front, Urethane	1
	24	78547	(020745–	)	Squeegee Blade Assembly, Rear, Urethane	1

Fig. 19 – Wire Harness Group

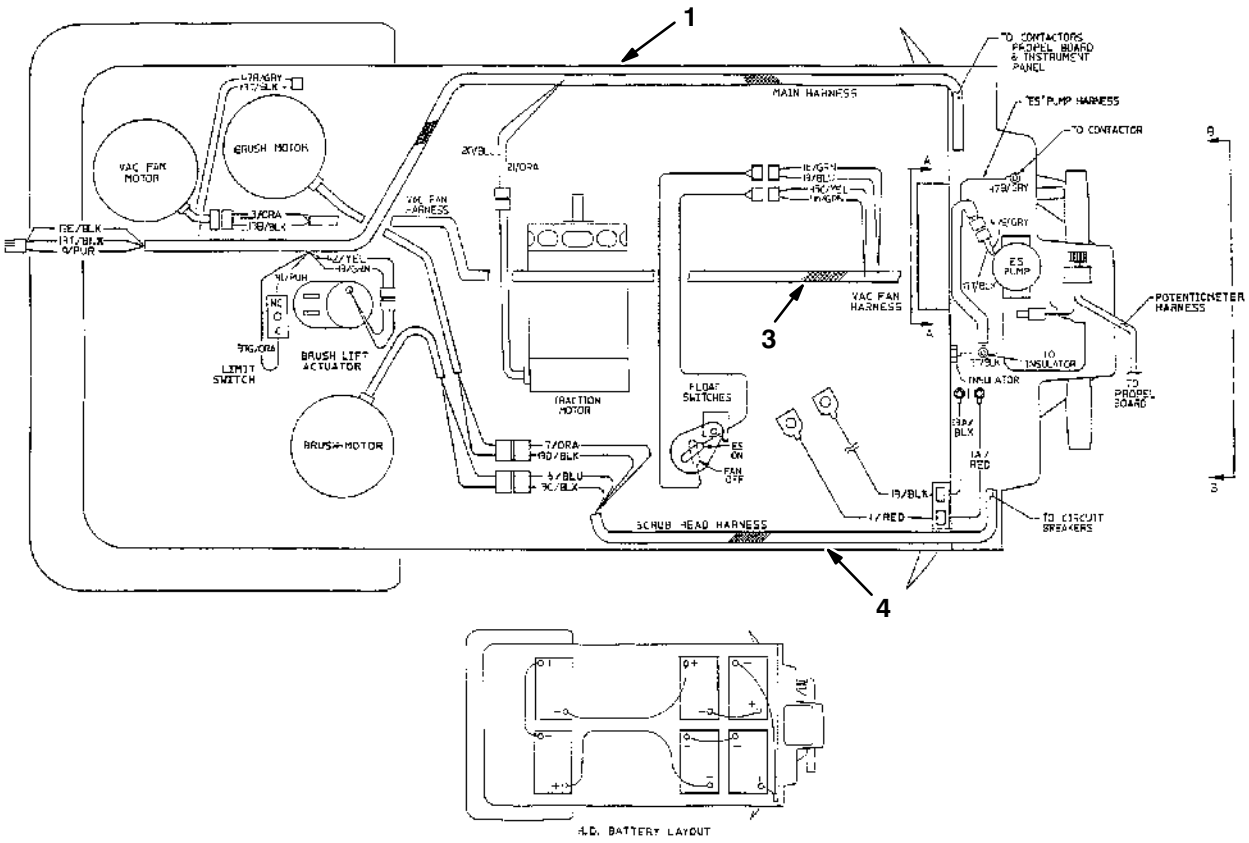
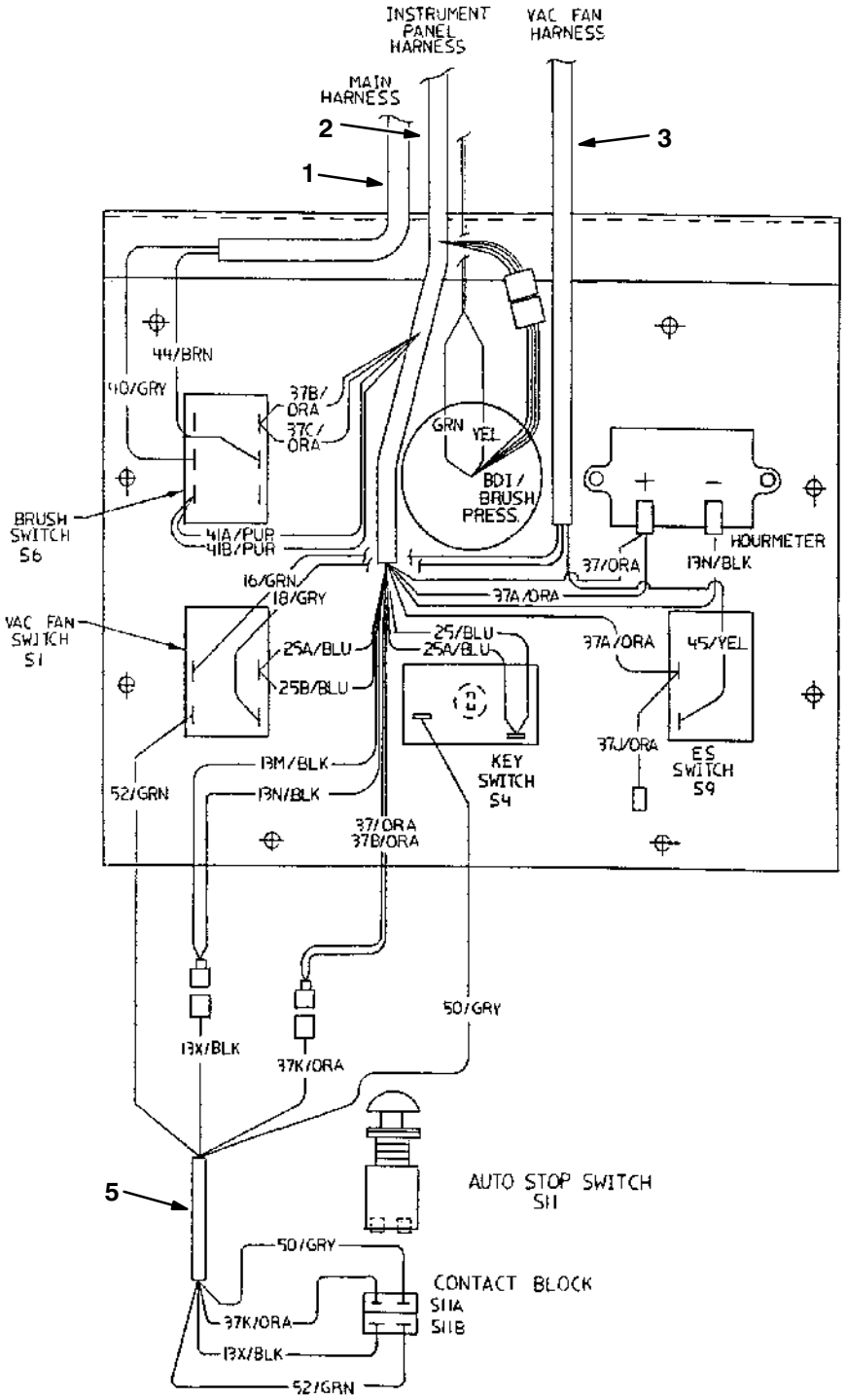


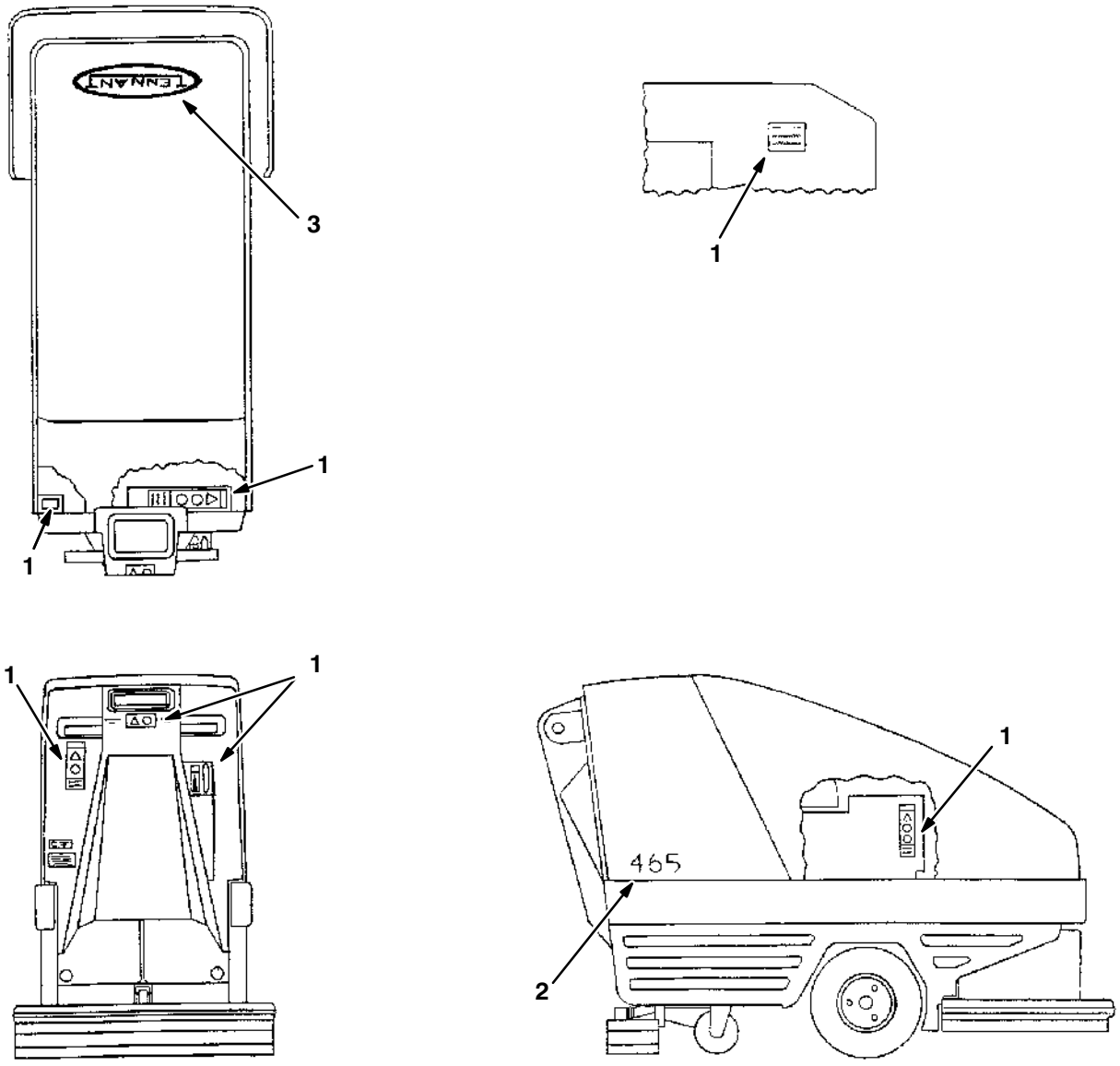
Fig. 19 – Wire Harness Group



06339/06339

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	27817	(020000–	)	Harness, Main Wire, EE	1
2	27815	(020000–	)	Harness, Wire, Instrument Panel, EE	1
3	27818	(020000–	)	Harness, Wire, Vacuum Fan, EE	1
4	27816	(020000–	)	Harness, Wire, Scrub Head, EE	1
5	65696	(020000–	)	Harness, Wire, Switch	1

Fig. 20 – Label Group



05100/05098

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11541	(020000–)	Label Set, Information and Hazard	1
2	28262	(020000–)	Label, Numerals 480EE	2
3	09806	(020000–)	Label, TENNANT Logo, Blue	1
	08823	(020000–)	Label, EE	2

SECTION 9

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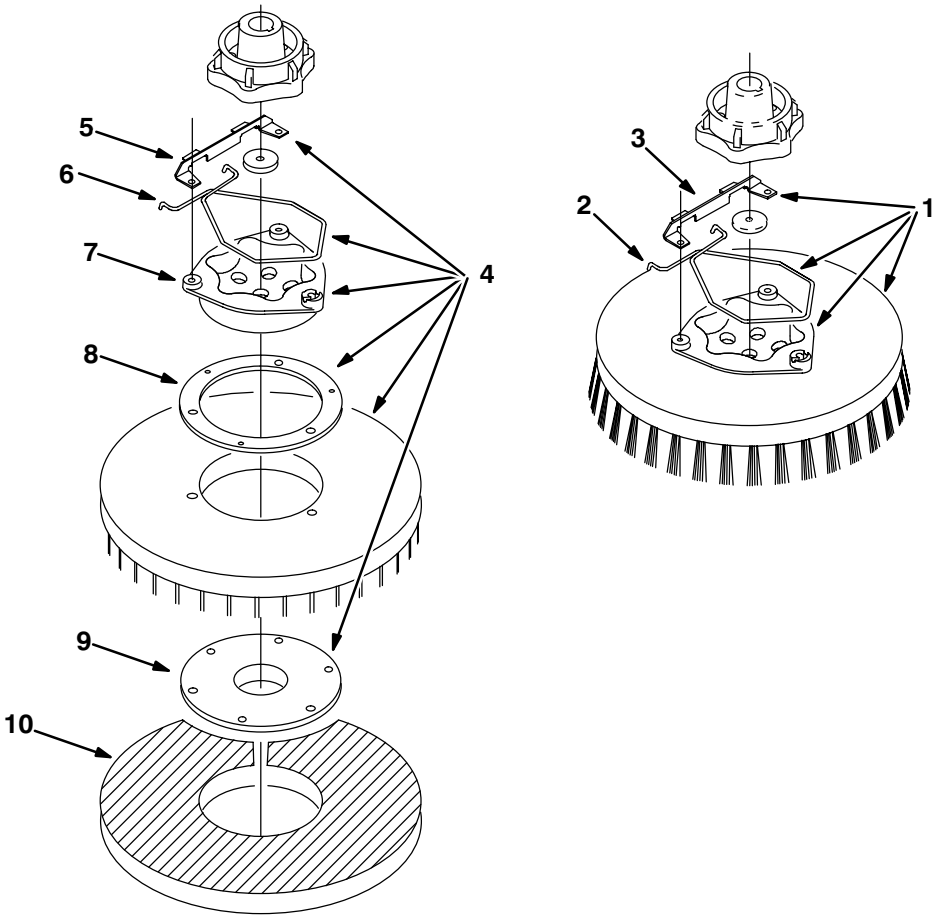
06308

Fig. 1 – Recommended General Maintenance Items

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	33475	(060000–	)	Squeegee Blade Kit	1
▲	33588	(060000–	)	Squeegee Blade Assembly, Front	1
▲	33590	(060000–	)	Squeegee Blade Assembly, Rear	1
▲	11283	(060000–	)	Blade, Squeegee End	2
	78548	(060000–	)	Squeegee Blade Assembly, Front, Urethane	1
	78549	(060000–	)	Squeegee Blade Assembly, Rear, Urethane	1

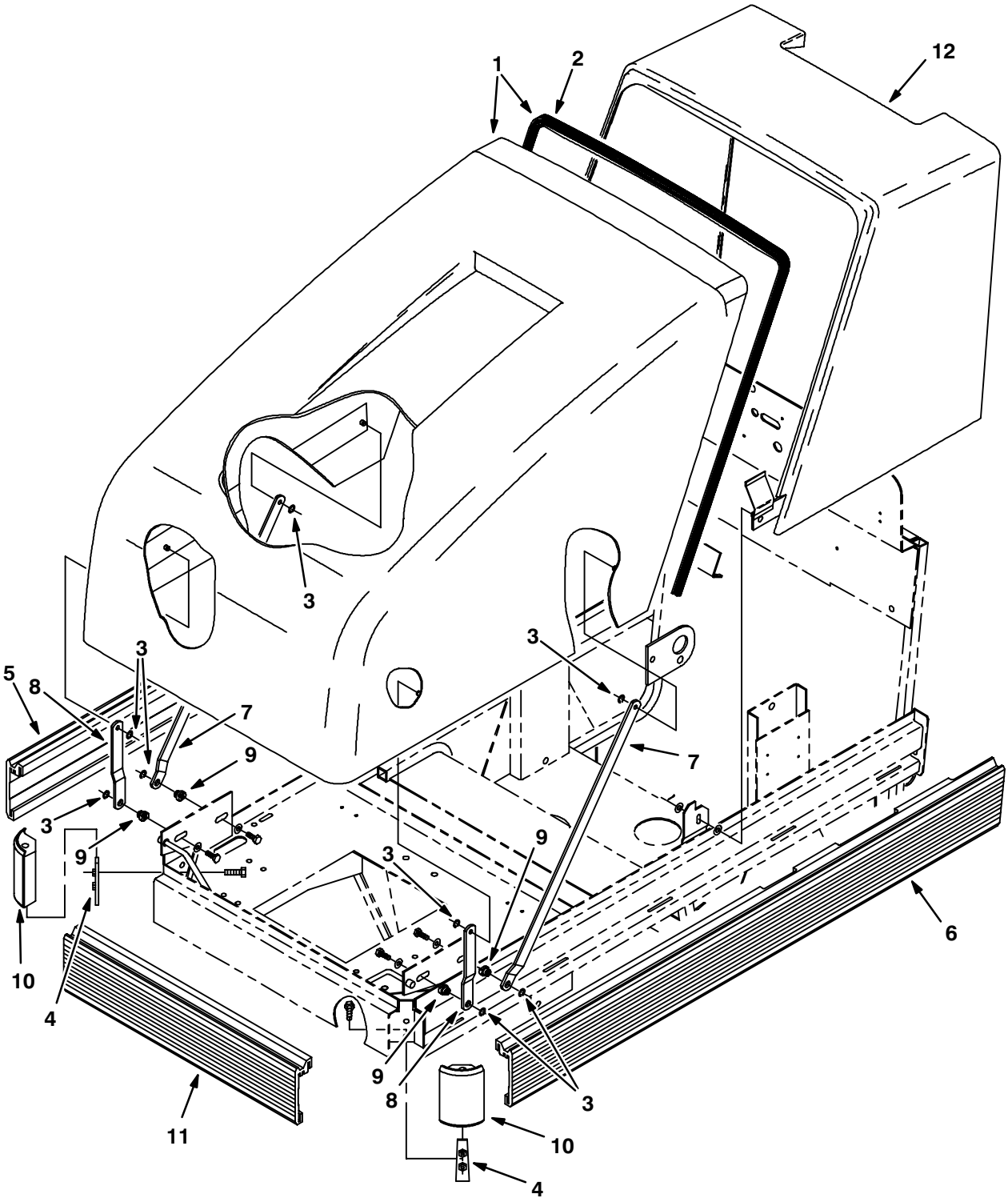
Fig. 2 – Replacement Brushes



06301/06301

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇	1	11771	(000000–)	Scrub Brush Assembly, Polypropylene	2
▲	2	14838	(000000–)	Spring, Brush Retaining	1
▲	3	24299	(000000–)	Bracket, Spring Retainer	1
∇		11773	(000000–)	Scrub Brush Assembly, Soft Nylon	2
▲		14838	(000000–)	Spring, Brush Retaining	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇		11772	(000000–)	Scrub Brush Assembly, Abrasive	2
▲		14838	(000000–)	Spring, Brush Retaining	1
▲		24299	(000000–)	Bracket, Spring Retainer	1
∇	4	11776	(000000–)	Scrub Driver Pad Assembly, Polypropylene	1
▲	5	24299	(000000–)	Bracket, Retainer Spring	1
▲	6	14838	(000000–)	Spring, Brush Retaining	1
▲	7	15539	(000000–)	Adaptor, Brush	1
▲	8	11218	(000000–)	Spacer, Pad Holder	1
▲	9	19783	(000000–)	Holder, Pad	1
	10	11777	(000000–)	Pad, Stripper, Brown	2
		11778	(000000–)	Pad, Scrubber, Blue	2
		11780	(000000–)	Pad, Buffer, Red	2
		11781	(000000–)	Pad, Polish, White	2

Fig. 3 – Hood and Bumper Group

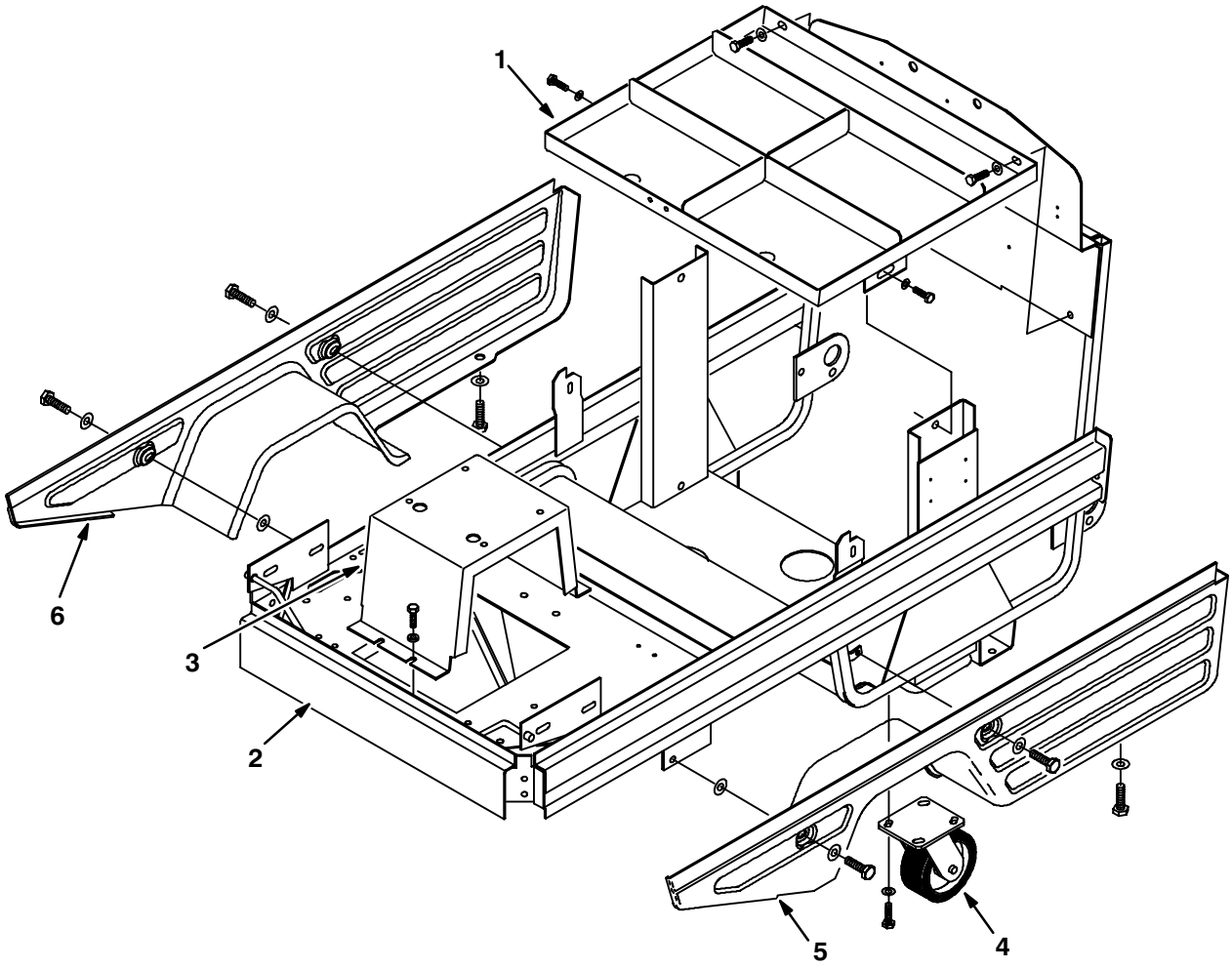


06250/06141

Fig. 3 – Hood and Bumper Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	05044	(060000–	)	Cover, Front	1
▲	2	33360	(060000–	)	Seal	1
	3	05284	(060000–	)	Clip, Retainer	8
	4	33454	(060000–	)	Plate, Mount	2
	5	33537	(060000–	)	Bumber, Side, R.H.	1
	6	33536	(060000–	)	Bumper, Side, L.H.	1
	7	05236	(060000–	)	Bar, Hinge Long	2
	8	05223	(060000–	)	Bar, Hinge Short	2
	9	05272	(060000–	)	Spacer, Hinge	4
	10	33407	(060000–	)	Block, Corner Frame	2
	11	05073	(060000–	)	Bumper, Front	1
	12	05081	(060000–	)	Cover, Rear	1

Fig. 4 – Main Frame Group

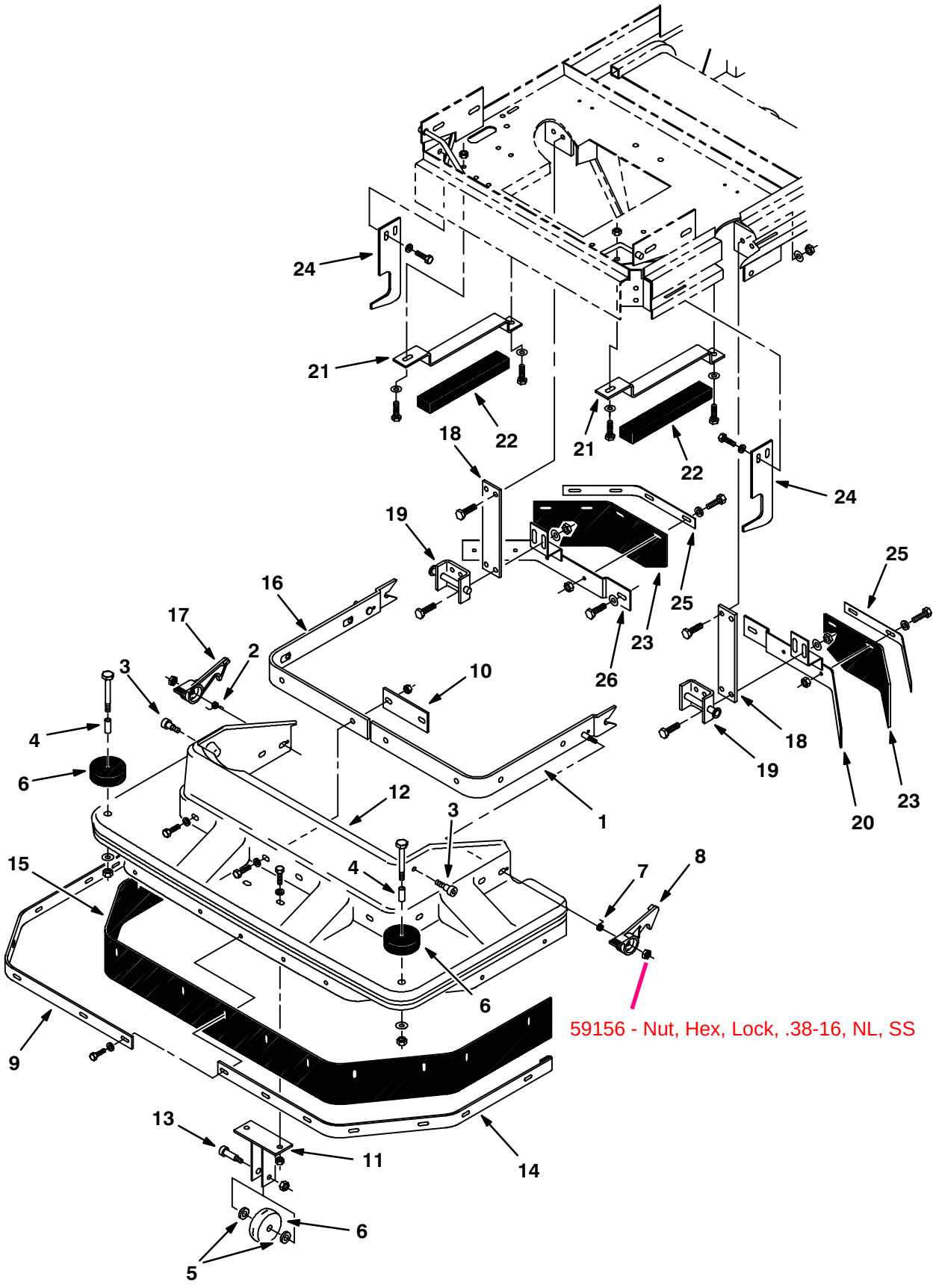


06251/06140

Fig. 4 – Main Frame Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	28163	(060000–)	Tray, Battery	1
2	33419	(060000–)	Frame, Main	1
3	33416	(060000–)	Channel	1
4	65690	(060000–)	Caster	2
5	24931	(060000–)	Panel, Cover, L.H.	1
6	24932	(060000–)	Panel, Lower, R.H.	1

Fig. 5 – Front Shroud Group

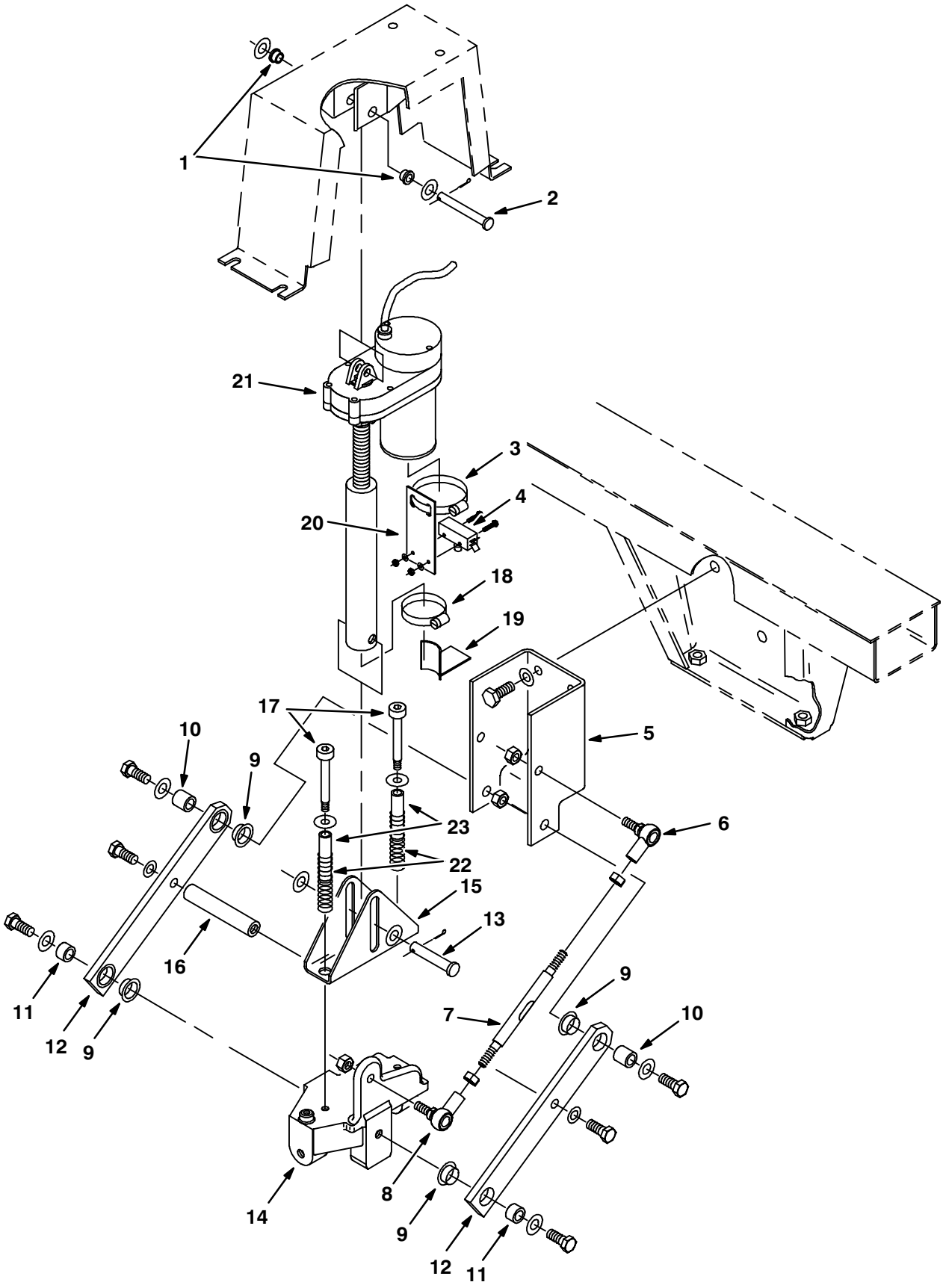


06252/06288

Fig. 5 – Front Shroud Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		28498	(060000–	)	Scrub Shroud Replacemant Kit	1
▲	1	28493	(060000	)	Strap, Shroud, L.H.	1
▲	2	10928	(060000–	)	Spring, Torsion, R.H.	1
▲	3	36758	(060000–	)	Screw, Shoulder	2
▲	4	33427	(060000–	)	Sleeve	2
▲	5	59633	(060000–	)	Bearing, Thrust, Fiberglide	2
▲	6	86800	(060000–	)	Wheel	3
▲	7	10927	(060000–	)	Spring, Torsion, L.H.	1
▲	8	11613	(060000–	)	Latch, Shroud, L.H.	1
▲	9	28489	(060000–	)	Strip, Skirt Retainer, R.H.	1
▲	10	28542	(060000–	)	Plate	1
▲	11	28545	(060000–	)	Bracket, Wheel	1
▲	12	28415	(060000–	)	Panel, Scrub Shroud Mounting	1
▲	13	86791	(060000–	)	Screw, Shoulder	1
▲	14	28470	(060000–	)	Strip, Skirt Retainer, L.H.	1
▲	15	28491	(060000–	)	Skirt, Scrub Head	1
▲	16	28465	(060000–	)	Strap, Shroud, R.H.	1
▲	17	11612	(060000–	)	Latch, Shroud, R.H.	1
	18	06108	(060000–	)	Spring	2
	19	05214	(060000–	)	Bracket, Shroud Mounting	2
	20	24760	(060000–	)	Bracket, Skirt, L.H.	1
	21	28082	(060000–	)	Bracket, Head Stop	2
	22	04832	(060000–	)	Pad, Head Stop	2
	23	24679	(060000–	)	Skirt, Side	2
	24	24852	(060000–	)	Plate, Mount	2
	25	24796	(060000–	)	Strip, Backup	2
	26	24785	(060000–	)	Bracket, Skirt, R.H.	1

Fig. 6 – Scrub Head Lift Group

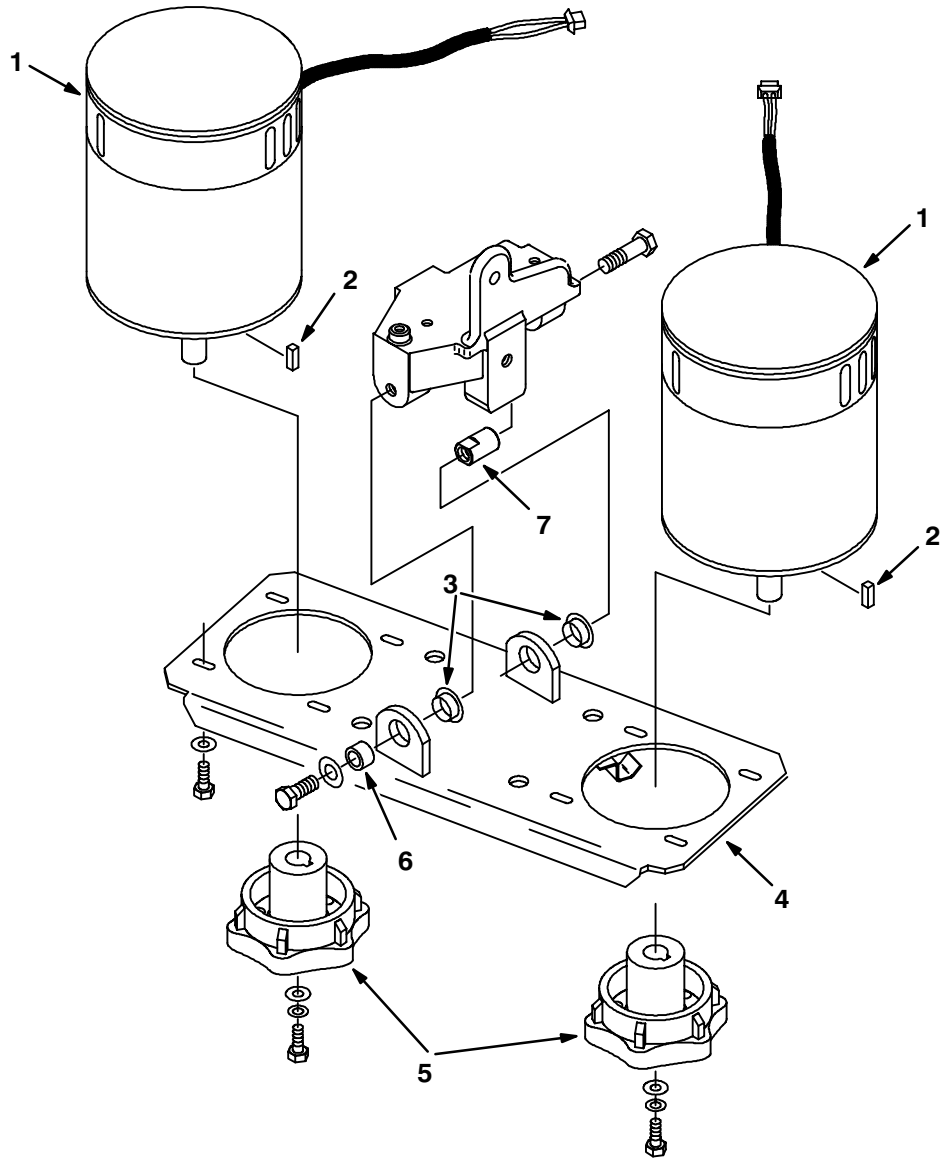


06253/06290

Fig. 6 – Scrub Head Lift Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	44238–10	(060000–)	Bushing, Flange	2
2	29584	(060000–)	Pin, Clevis	1
3	14432	(060000–)	Clamp, Worm Drive	1
4	63846	(060000–)	Switch, Push Button	1
5	28434	(060000–)	Bracket, Link Mount	1
6	05685	(060000–)	Rod End, M10, L.H.	1
7	04921	(060000–)	Rod, Adjusting	1
8	05686	(060000–)	Rod End, M10, R.H.	1
9	04928	(060000–)	Bearing, Flange	4
10	05019	(060000–)	Sleeve	2
11	04927	(060000–)	Sleeve	2
12	04920	(060000–)	Bar, Pivot	2
13	11211	(060000–)	Pin, Clevis	1
14	04924	(060000–)	Pivot, Scrub Head	1
15	10957	(060000–)	Bracket, Head Lift	1
16	04942	(060000–)	Spacer, Rod	1
17	10964	(060000–)	Screw, Shoulder	2
18	11399	(060000–)	Clamp, Worm Drive	1
19	10954	(060000–)	Bracket, Switch	1
20	10951	(060000–)	Bracket, Switch	1
21	10963	(060000–)	Actuator, 36 V	1
22	45261	(060000–)	Spring, Compression	2
23	50682	(060000–)	Sleeve	2

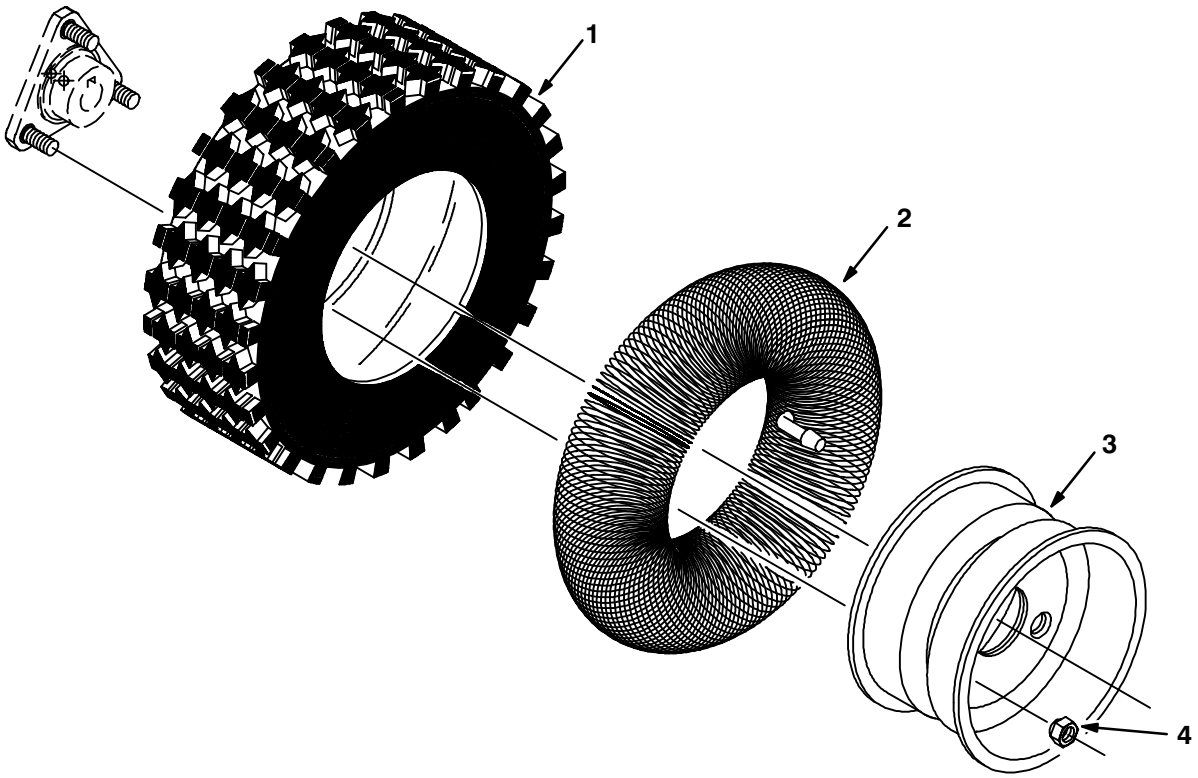
Fig. 7 – Scrub Head Group



06254/06292

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	04922	(060000–	)	Motor, 36 V (See Breakdowns)	2
2	00926	(060000–	)	Key, Square	2
3	04928	(060000–	)	Bearing, Flange	2
4	24578	(060000–	)	Plate, Brush Drive	1
5	14841	(060000–	)	Hub, Brush Drive	2
6	04927	(060000–	)	Sleeve	1
7	05612	(060000–	)	Sleeve, Scrub Head Rear	1

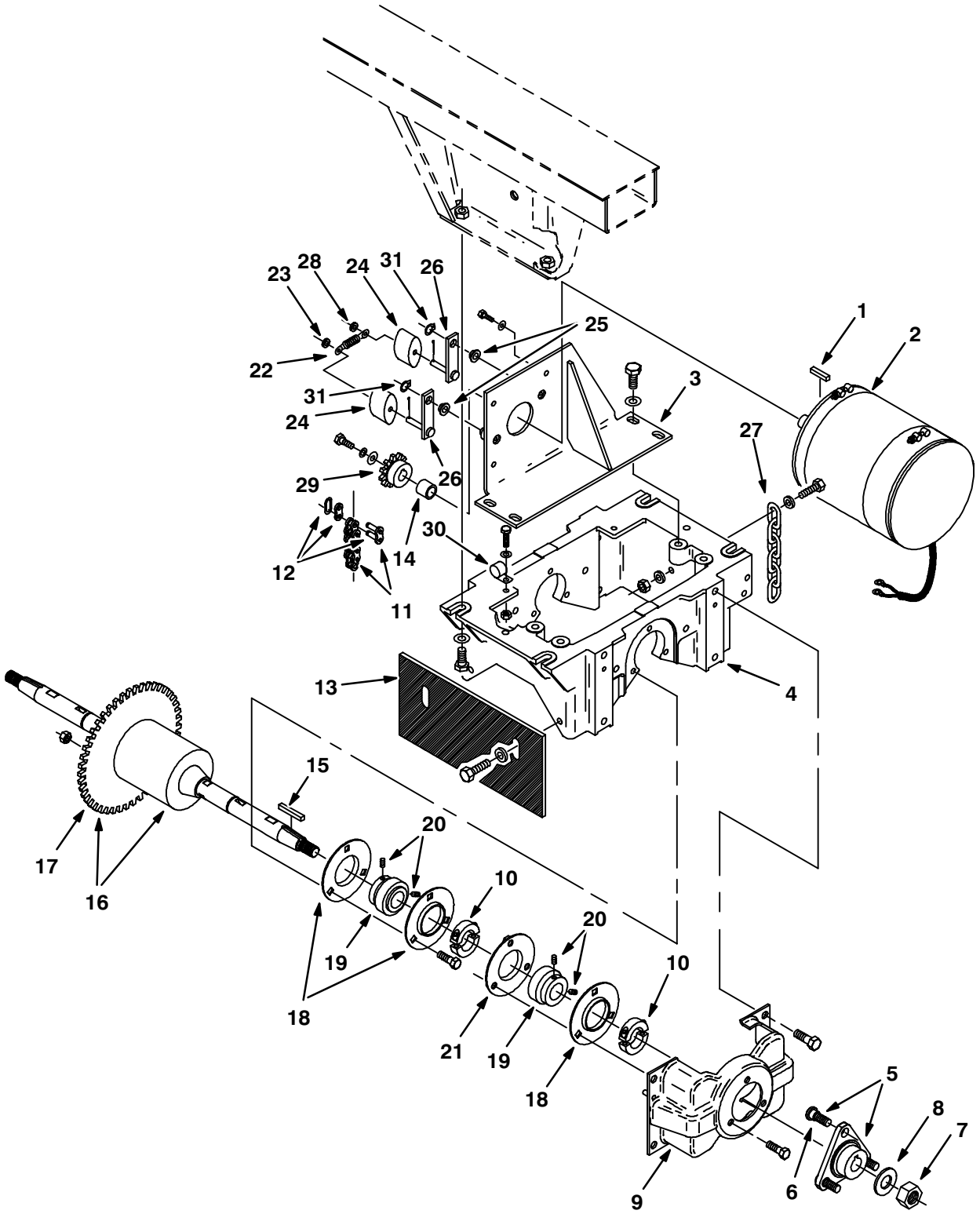
Fig. 8 – Tire and Rim Assembly



06255/04200

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		61597	(060000–	)	Tire and Rim Assembly	2
▲	1	61596	(060000–	)	Tire	1
▲	2	04658	(060000–	)	Tube, Inner	1
▲	3	04657	(060000–	)	Rim	1
	4	11109	(060000–	)	Nut, Wheel	6

Fig. 9 – Single Drive Group

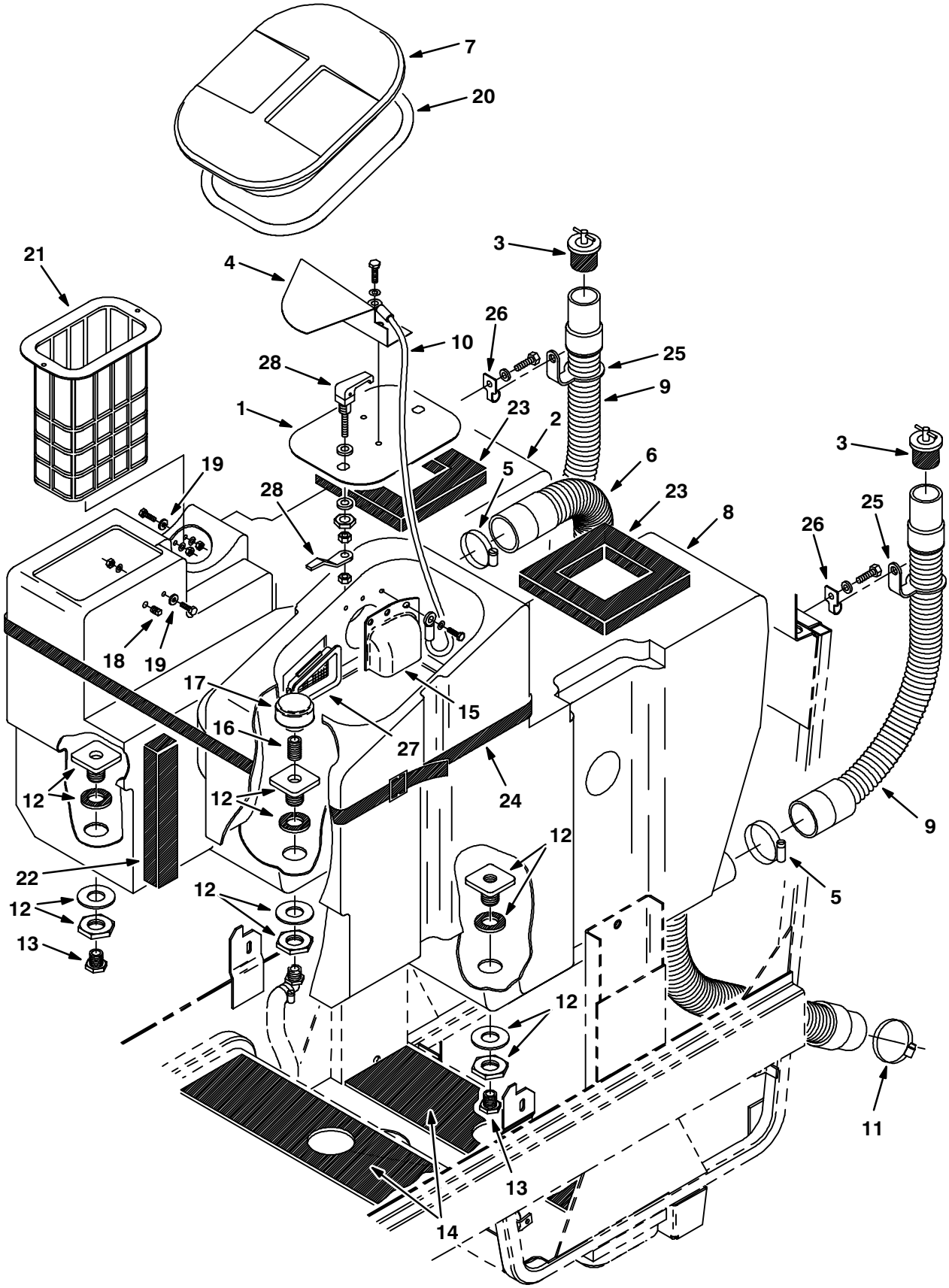


06256/04194

Fig. 9 – Single Drive Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	00926	(060000–	)	Key, Square	1
	2	05680	(060000–	)	Motor, Electric (See Breakdowns)	1
	3	24552	(060000–	)	Plate, Motor Mounting	1
	4	05191	(060000–	)	Housing, Drive Wheel Support	1
∇	5	05606	(060000–	)	Hub Assembly, Single Drive	2
▲	6	11117	(060000–	)	Stud, Wheel	3
	7	33342	(060000–	)	Nut, Nylon Hex, M16	2
	8	04400	(060000–	)	Washer, M16	2
	9	11088	(060000–	)	Bracket, Support Bearing	2
	10	05696	(060000–	)	Collar, Clamping	4
∇	11	61416	(060000–	)	Chain and Link Assembly	1
▲	12	28272	(060000–	)	Link, Roller Chain	1
	13	24645	(060000–	)	Skirt	1
	14	04744	(060000–	)	Spacer	1
	15	00927	(060000–	)	Key, Square	2
∇	16	24682	(060000–	)	Differential and Sprocket Replacement Kit	1
▲	17	11127	(060000–	)	Sprocket	1
▲	18	36190	(060000–	)	Flange	6
▲∇	19	24684	(060000–	)	Bearing Replacement Kit	4
▲▲	20	79599	(060000–	)	Screw, Nylon Set	2
▲	21	04746	(060000–	)	Flange, Bearing	2
	22	05605	(060000–	)	Wire, Spring, Long	1
	23	04720	(060000–	)	Spring, Compression	1
	24	04671	(060000–	)	Puck, Chain Tensioner	2
	25	15877	(060000–	)	Bearing, Flange	2
	26	24547	(060000–	)	Arm, Chain Tensioner	2
	27	47277	(060000–	)	Chain, Static	1
	28	05604	(060000–	)	Wire, Spring, Short	1
	29	04721	(060000–	)	Sprocket	1
	30	40678–1	(060000–	)	Clamp, Cable	1
	31	24555	(060000–	)	E-Ring, External	2

Fig. 10 – Solution and Recovery Tanks Group

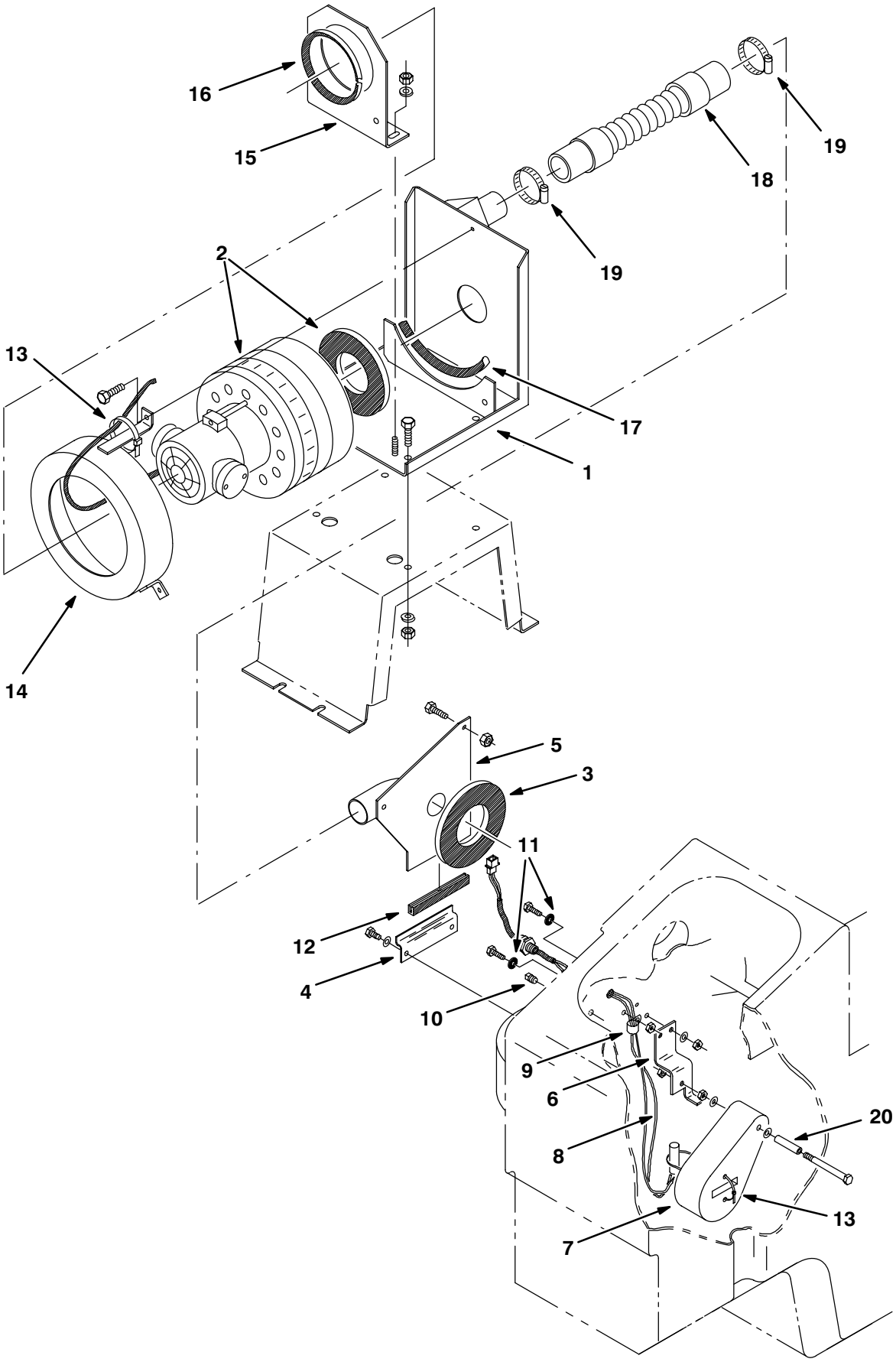


06257/04196

Fig. 10 – Solution and Recovery Tanks Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	65552	(060000–060110	)	Baffle Kit	1
1	65551	(060111–	)	Plate, Baffle	1
2	05016	(060000–	)	Tank, Solution	1
3	222396	(060000–	)	Stopper Assembly	2
4	11746	(060000–	)	Baffle, Tank	1
5	22297	(060000–	)	Clamp, Worm Drive	3
6	05216	(060000–	)	Hose, Squeegee	1
7	06137	(060000–	)	Cover, Recovery Tank	1
8	05017	(060000–	)	Tank Recovery	1
9	05127	(060000–	)	Hose, Drain	2
10	19676	(060000–	)	Lanyard	1
11	33344	(060000–	)	Clamp, Worm Drive	1
12	65566	(060000–	)	Fitting, Straight	3
13	75611	(060000–	)	Fitting, Plug	2
14	05675	(060000–	)	Pad, Tank	2
15	11750	(060000–	)	Baffle, Vacuum Fan	1
16	69784	(060000–	)	Fitting, Nipple	1
17	05218	(060000–	)	Strainer, Solution Tank	1
18	56119	(060000–	)	Fitting, Plug	1
19	76426	(060000–	)	Washer, Sealing	3
20	05165	(060000–	)	Seal, Recovery Tank Lid	1
21	43516A	(060000–	)	Basket, Soap	1
22	04832	(060000–	)	Pod, Foam	1
23	57828	(060000–	)	Foam	2
24	04836	(060000–	)	Strap, Poly	1
25	24663	(060000–	)	Strap, Drain Hose	2
26	24638	(060000–	)	Clip, Drain Hose	2
27	05089	(060000–	)	Screen	1
28	65695	(060111–	)	Latch, Lift and Turn, Adjustable	2

Fig. 11 – Vacuum Fan Group

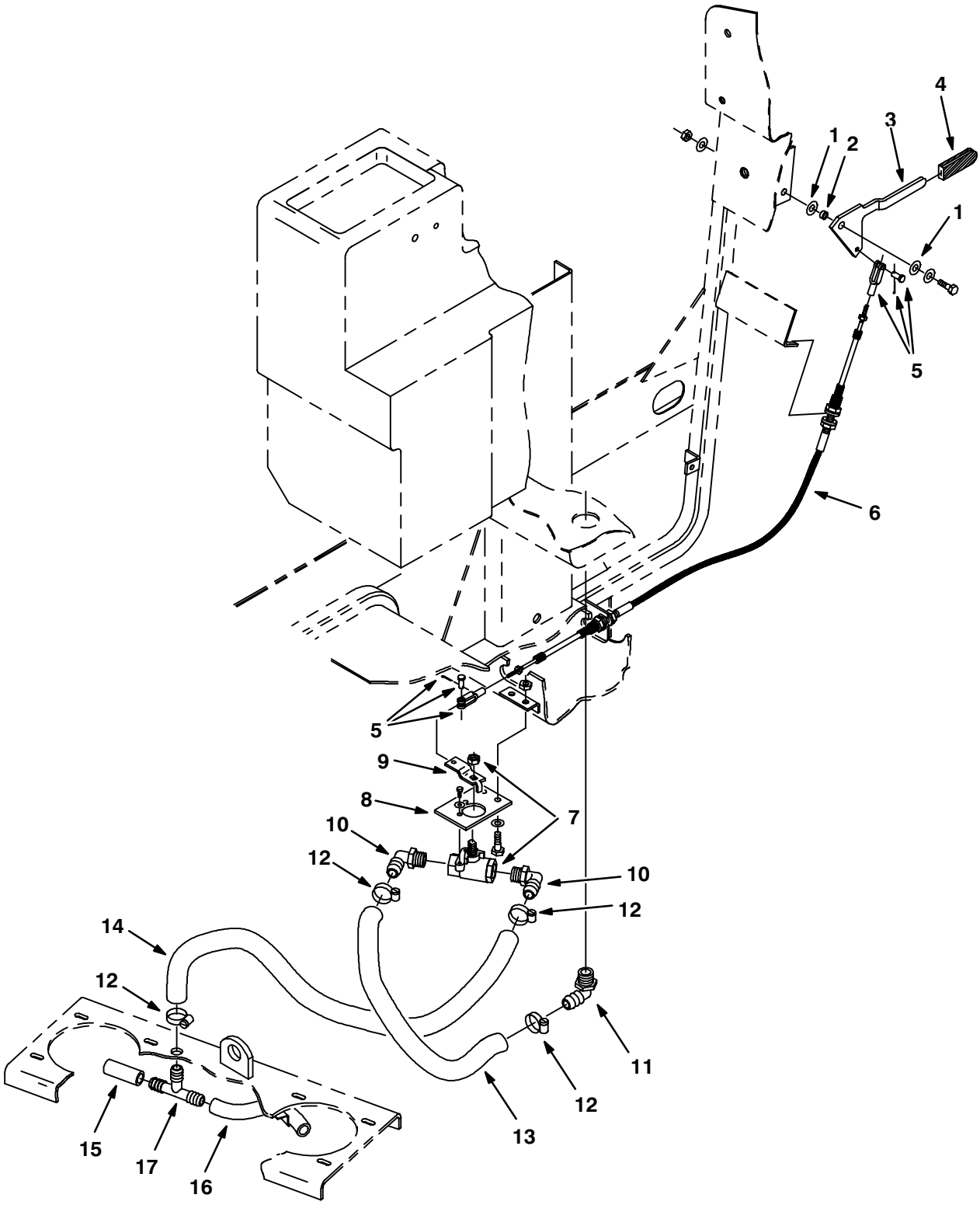


06258/06293

Fig. 11 – Vacuum Fan Group

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	28400	(060000–)	Bracket, Fan Mount	1
2	28386	(060000–)	Fan, Vacuum (See Breakdowns)	1
3	10912	(060000–)	Seal	1
4	06146	(060000–)	Bracket, Mounting	1
5	60171	(060000–)	Plate and Label Assembly, Tank	1
6	05567	(060000–)	Bracket, Water Level Control	1
7	65683	(060000–)	Float, Water Level	1
8	28346	(060000–)	Mercury Switch Assembly	1
9	33584	(060000–)	Clamp, Cable	1
10	56119	(060000–)	Fitting, Plug	1
11	76426	(060000–)	Washer, Sealing	3
12	10911	(060000–)	Isolator, Vacuum Fan	1
13	49266	(060000–)	Tie, Cable	2
14	28405	(060000–)	Ring, Fan	1
15	28410	(060000–)	Bracket, Rear Fan Mount	1
16	28414	(060000–)	Strip, Rubber	1
17	28413	(060000–)	Strip, Rubber	1
18	28412	(060000–)	Hose, Vacuum Fan	1
19	11531	(060000–)	Clamp, Worm Drive	2
20	78551	(060000–)	Tube	1

Fig. 12 – Solution Control Group

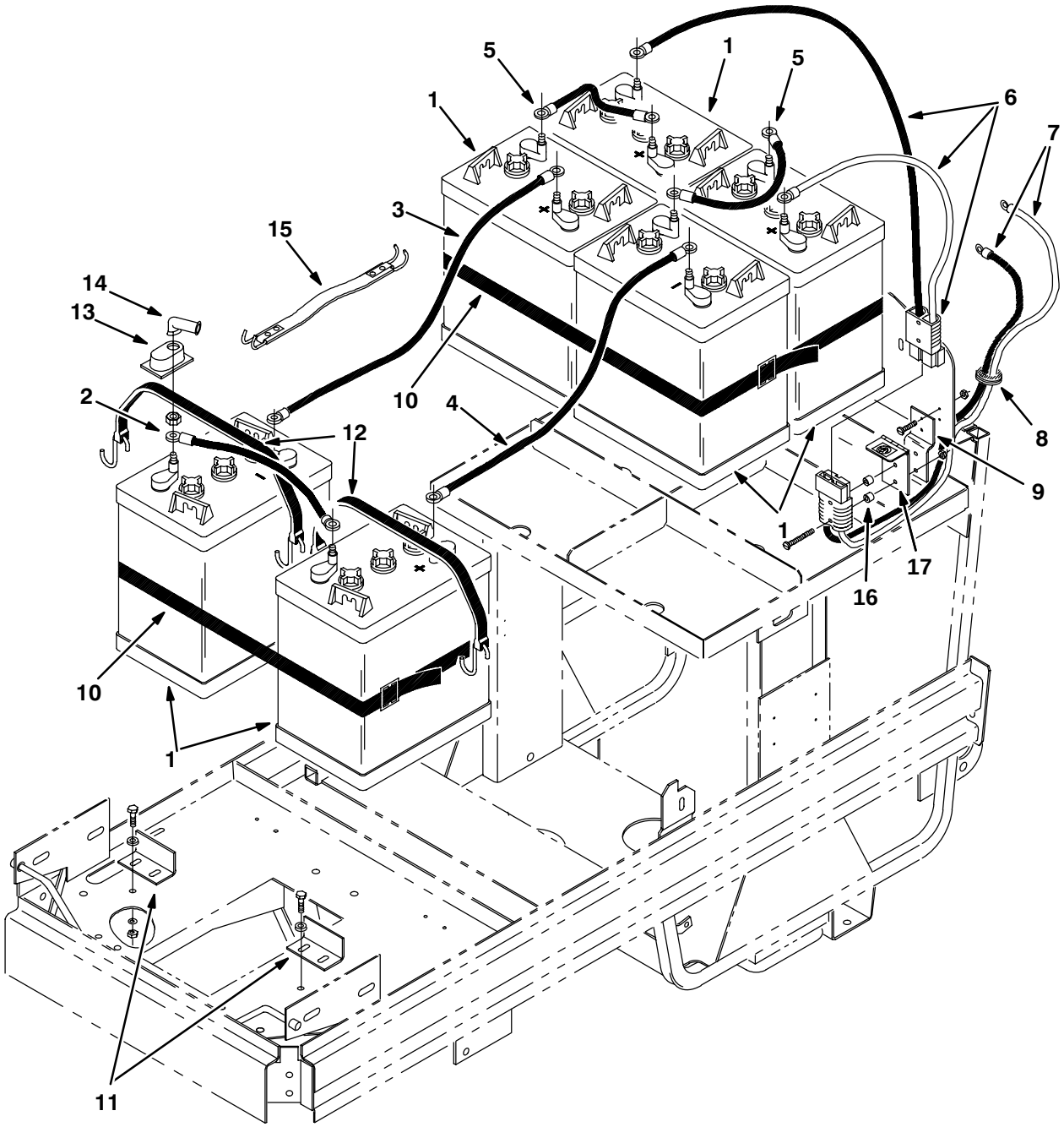


06259/04198

Fig. 12 — Solution Control Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	43611	(060000–	)	Washer, Nylon	2
2	63342	(060000–	)	Sleeve	1
3	33438	(060000–	)	Lever, Control	1
4	33439	(060000–	)	Grip, Handle	1
5	27880	(060000–	)	Yoke Assembly	2
6	05670	(060000–	)	Cable, Push Pull	1
7	12083	(060000–	)	Water, Valve	1
8	05294	(060000–	)	Bracket, Valve Mounting	1
9	05669	(060000–	)	Arm, Water Valve	1
10	63244–1	(060000–	)	Fitting, Barbed Elbow	2
11	63244–3	(060000–	)	Fitting, Barbed Elbow	1
12	54333	(060000–	)	Clamp, Worm Drive	4
13	05714	(060000–	)	Hose, PVC	1
14	60164	(060000–	)	Hose, Clear Vinyl	1
15	05711	(060000–	)	Hose, Clear Vinyl	1
16	60165	(060000–	)	Hose, Clear Vinyl	1
17	63245–1	(060000–	)	Fitting, Barbed Tee	1

Fig. 13 – Battery Group

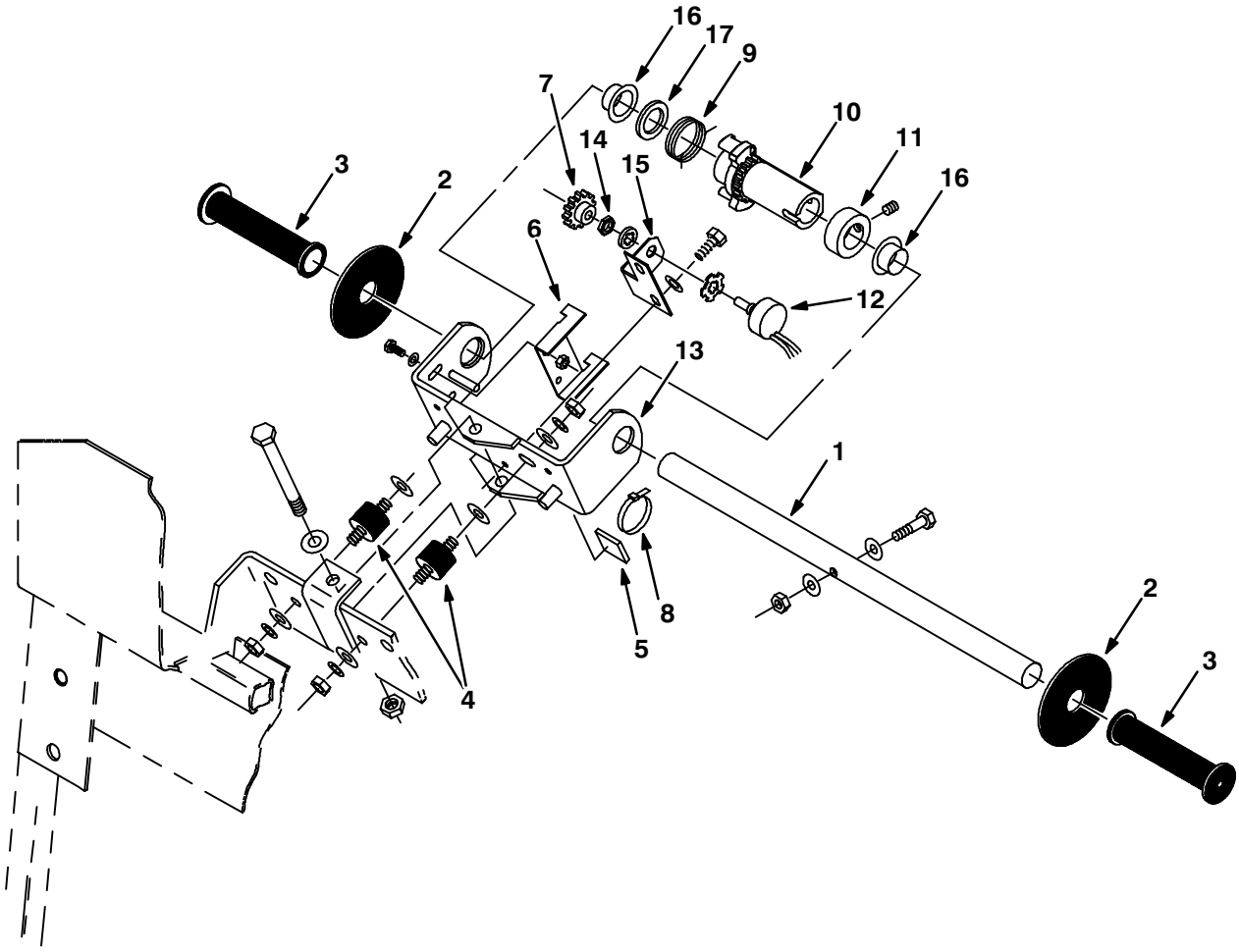


06260/06294

Fig. 13 – Battery Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	10155	(060000–	)	Battery, 6 V, Wet	6
1	11229	(060000–	)	Battery, 6 V, Dry (International Only)	6
2	28333	(060000–	)	Cable, Battery	1
3	28334	(060000–	)	Cable, Battery	1
4	28335	(060000–	)	Cable, Battery	1
5	63740	(060000–	)	Cable, Battery	2
6	60096	(060000–	)	Harness, Battery Wire	1
7	60098	(060000–	)	Harness, Machine Wire	1
8	10632	(060000–	)	Grommet, Rubber	1
9	60095	(060000–	)	Bracket, Connector	1
10	04836	(060000–	)	Strap, Poly, Webbing	2
11	24843	(060000–	)	Angle, Battery Stop	2
12	33671	(060000–	)	Strap, Rubber, Tie–down	2
13	45962	(060000–	)	Cover, Terminal	12
14	02076	(060000–	)	Cover, Terminal	12
15	28286	(060000–	)	Strap, Battery Lift	1
16	01275	(060000–	)	Sleeve	2
17	65745	(060000–	)	Hinge, W/Label, SB175	1

Fig. 14 – Steering Control Group

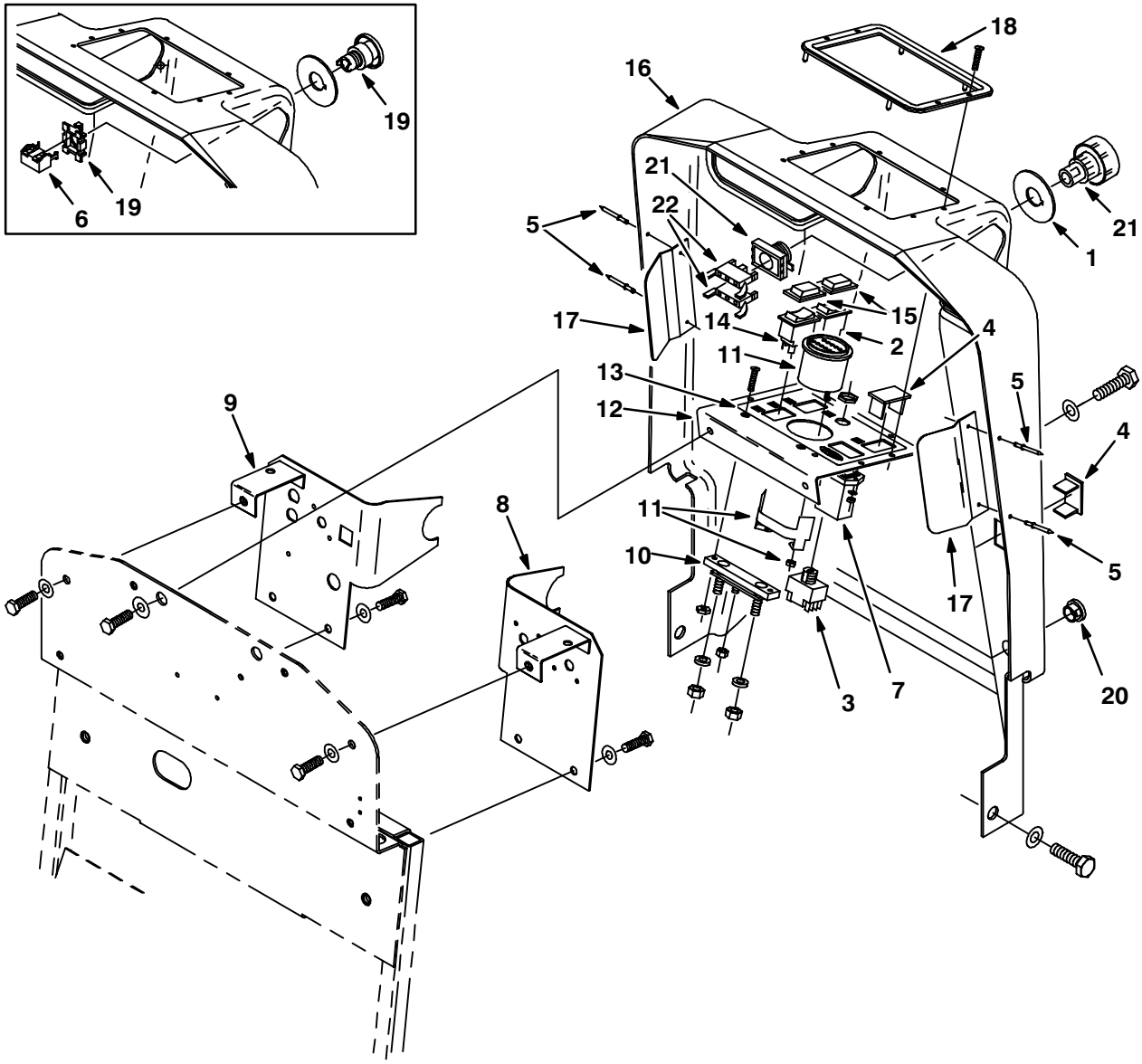


06261/04195

Fig. 14 – Steering Control Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	04760	(060000–	)	Handle, Speed Control	1
2	06208	(060000–	)	Washer, Neoprene	2
3	04765	(060000–	)	Grip, Handle	2
4	05611	(060000–	)	Isolator, Vibration	2
5	55248	(060000–	)	Mount, Cable Tie	5
6	04767	(060000–	)	Stop, Spring	1
7	27974	(060000–	)	Gear	1
8	49266	(060000–	)	Tie, Cable	10
9	04762	(060000–	)	Spring, Torsion Centering	1
10	04763	(060000–	)	Hub And Gear	1
11	04766	(060000–	)	Collar, Shaft	1
12	27955	(060000–	)	Potentiometer Replacement Kit	1
13	27934	(060000–	)	Bracket, Handle	1
14	86730	(060000–	)	Nut, Hex, Thin	1
15	27973	(060000–	)	Bracket, Potentiometer	1
16	27937	(060000–	)	Bearing, Flange	2
17	82226	(060000–	)	Washer	1

Fig. 15 – Rear Electrical Panel Group

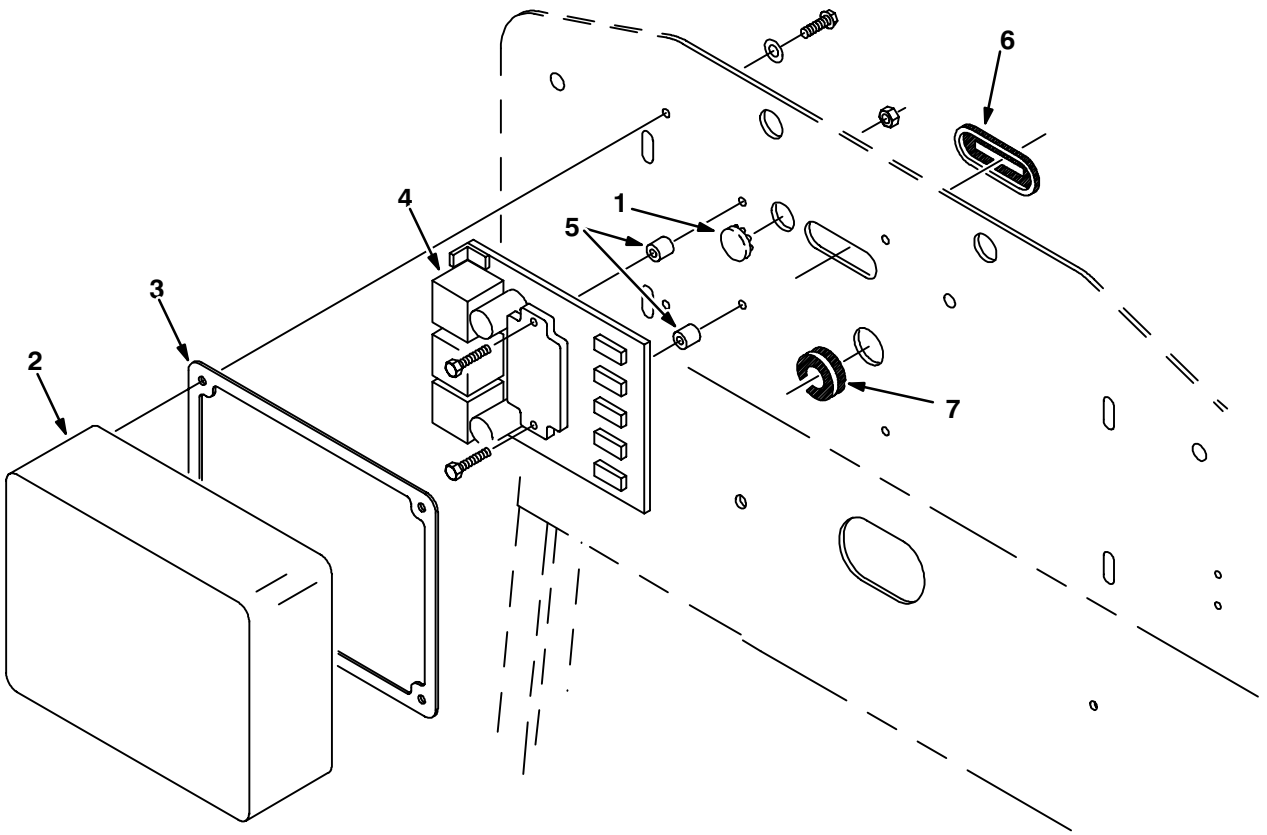


06262/04222

Fig. 15 – Rear Electrical Panel Group

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	28428	(060000–	)	Plate, Stop Button	1
	2	65554	(060000–	)	Switch, Progressive Rocker	1
∇	3	31203	(060000–	)	Switch Assembly, Key	1
▲		31204	(060000–	)	Key, Switch	1
	4	57772	(060000–	)	Plate, Cover	2
	5	56799	(060000–	)	Rivet, Pop	4
	6	11608	(060000–060133	)	Contacts, Switch	2
	7	31988	(060000–	)	Hourmeter	1
	8	04957	(060000–	)	Plate, Circuit Breaker Mounting	1
	9	28416	(060000–	)	Plate, Circuit Breaker Mounting	1
	10	28427	(060000–	)	Shunt	1
	11	11488	(060000–	)	Brush Pressure/Battery Gauge	1
	12	33501	(060000–	)	Panel, Instrument	1
	13	10960	(060000–	)	Label, Instrument Panel	1
	14	65559	(060000–	)	Switch, Rocker, DPDT	1
	15	57807	(060000–	)	Cover, Rocker Switch Seal	2
	16	65598	(060000–	)	Panel and Label Assembly, Rear	1
	17	05027	(060000–	)	Guide, Cover, Rear	2
	18	33492	(060000–	)	Bezel, Touch Panel	1
	19	28429	(060000–060133	)	Switch, Push Button	1
	20	65584	(060000–	)	Plugbutton	1
	21	65664	(060134–	)	Switch, Push Button	1
	22	65665	(060134–	)	Contacts, Switch	2

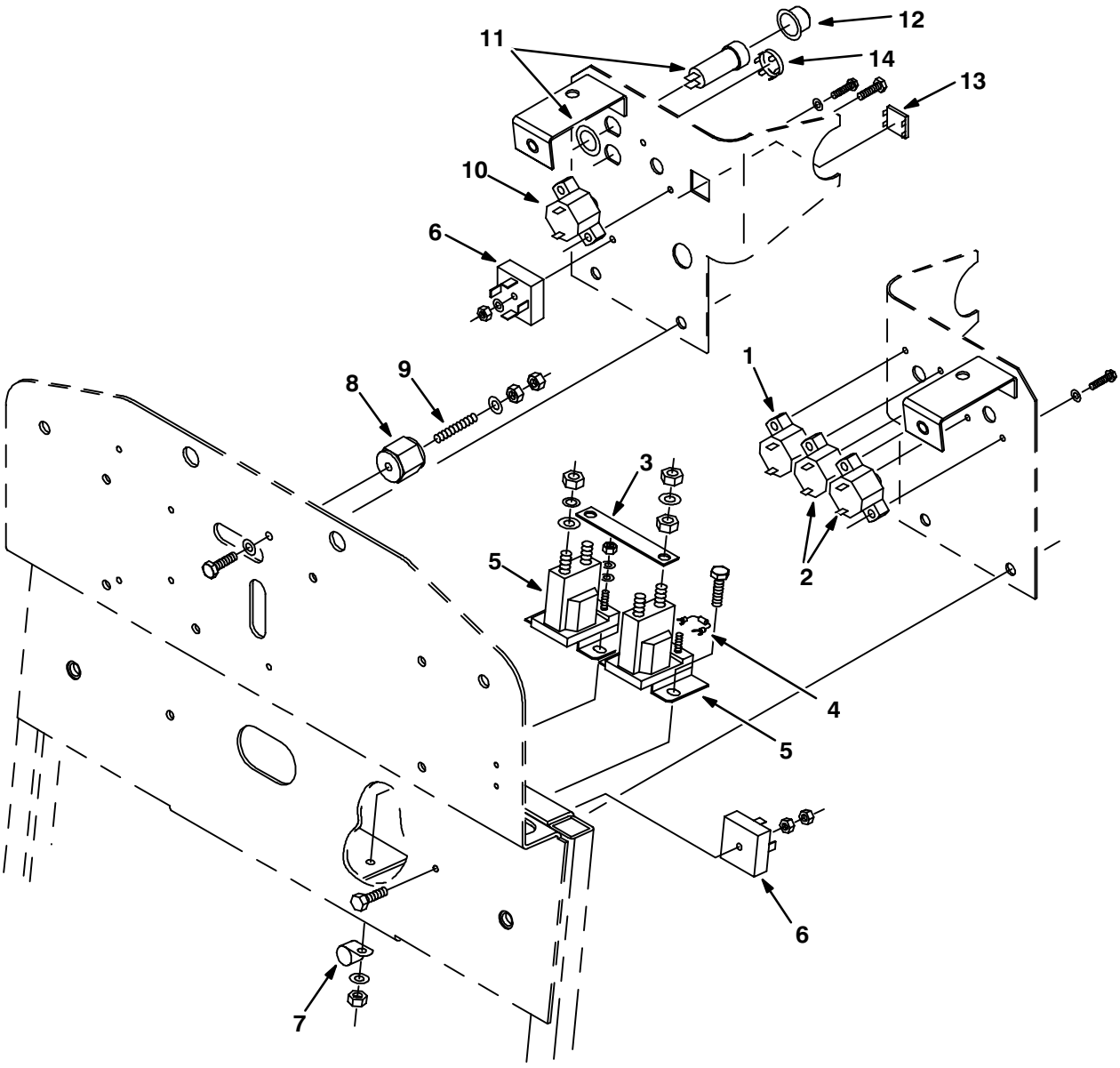
Fig. 16 – Electrical Controller Group



06263/04779

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	57167	(060000–	)	Plugbutton	1
2	11713	(060000–	)	Cover and Label Assembly, Circuit Board	1
3	11341	(060000–	)	Gasket, Controller	1
4	27963	(060000–	)	Controller Kit, Single	1
5	65742	(060000–	)	Sleeve	2
6	27928	(060000–	)	Grommet, Ribbon Cable	1
7	10632–9	(060000–	)	Grommet	1

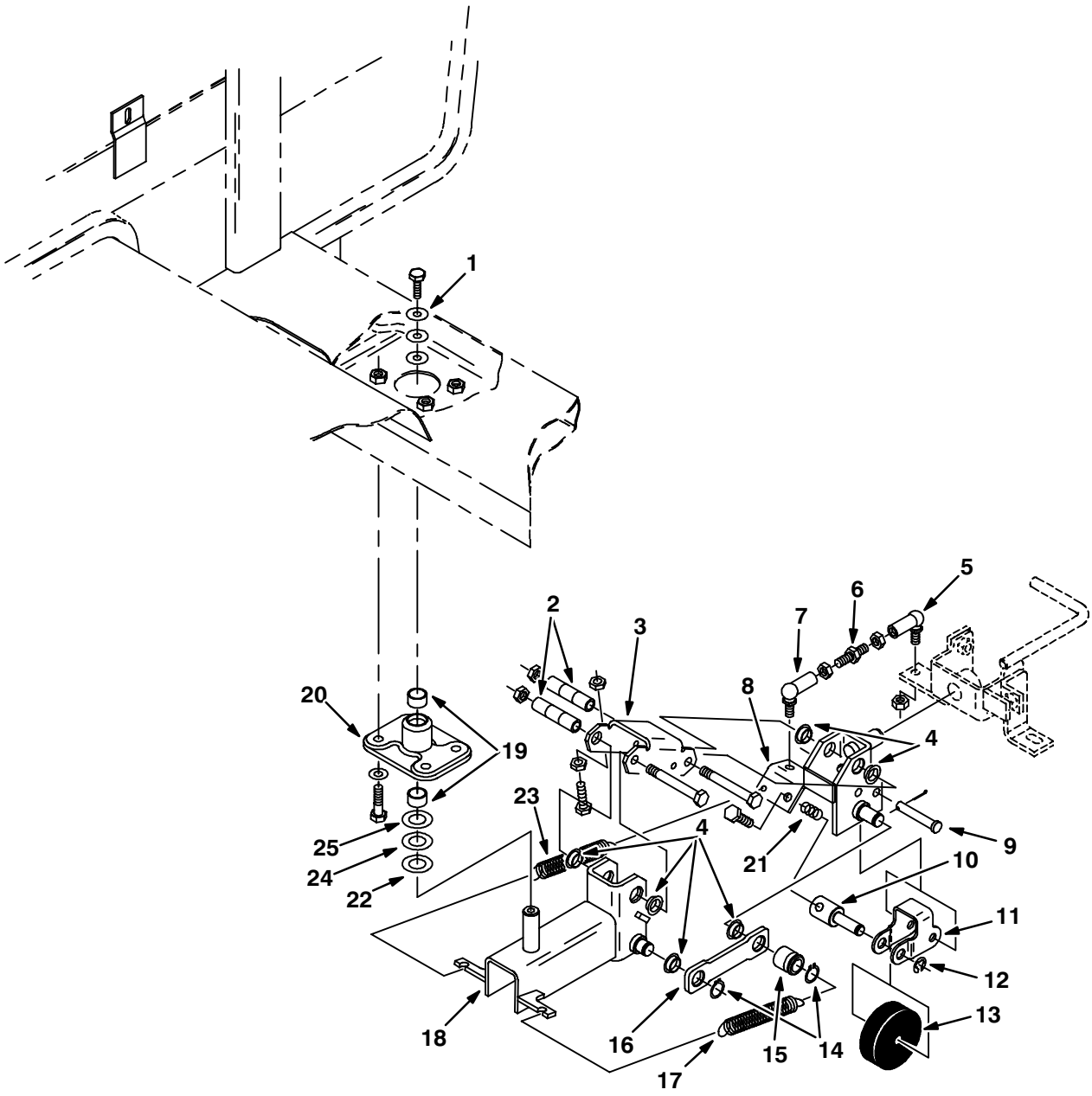
Fig. 17 – Rear Electrical Group



06264/06295

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	27969	(060000–	)	Breaker, Circuit, 35 A	1
2	63030–2	(060000–	)	Breaker, Circuit, 25 A	2
3	10967	(060000–	)	Busbar, Relay	1
4	32234	(060000–	)	Diode Assembly	1
5	04685	(060000–	)	Contactor, SPST	2
6	10962	(060000–	)	Diode, Bridge, 12 A	2
7	26395–1	(060000–	)	Clamp, Cable	1
8	76062	(060000–	)	Insulator, Panel and Switch Board	1
9	41702	(060000–	)	Rod, Threaded	1
10	27967	(060000–	)	Breaker, Circuit, 20 A	1
11	87977	(060000–	)	Breaker, Circuit, 7 A	1
12	57751	(060000–	)	Boot, Circuit Breaker	1
13	28426	(060000–	)	Plugbutton	1
14	57167	(060000–	)	Plugbutton	1

Fig. 18 – Rear Squeegee Link Group

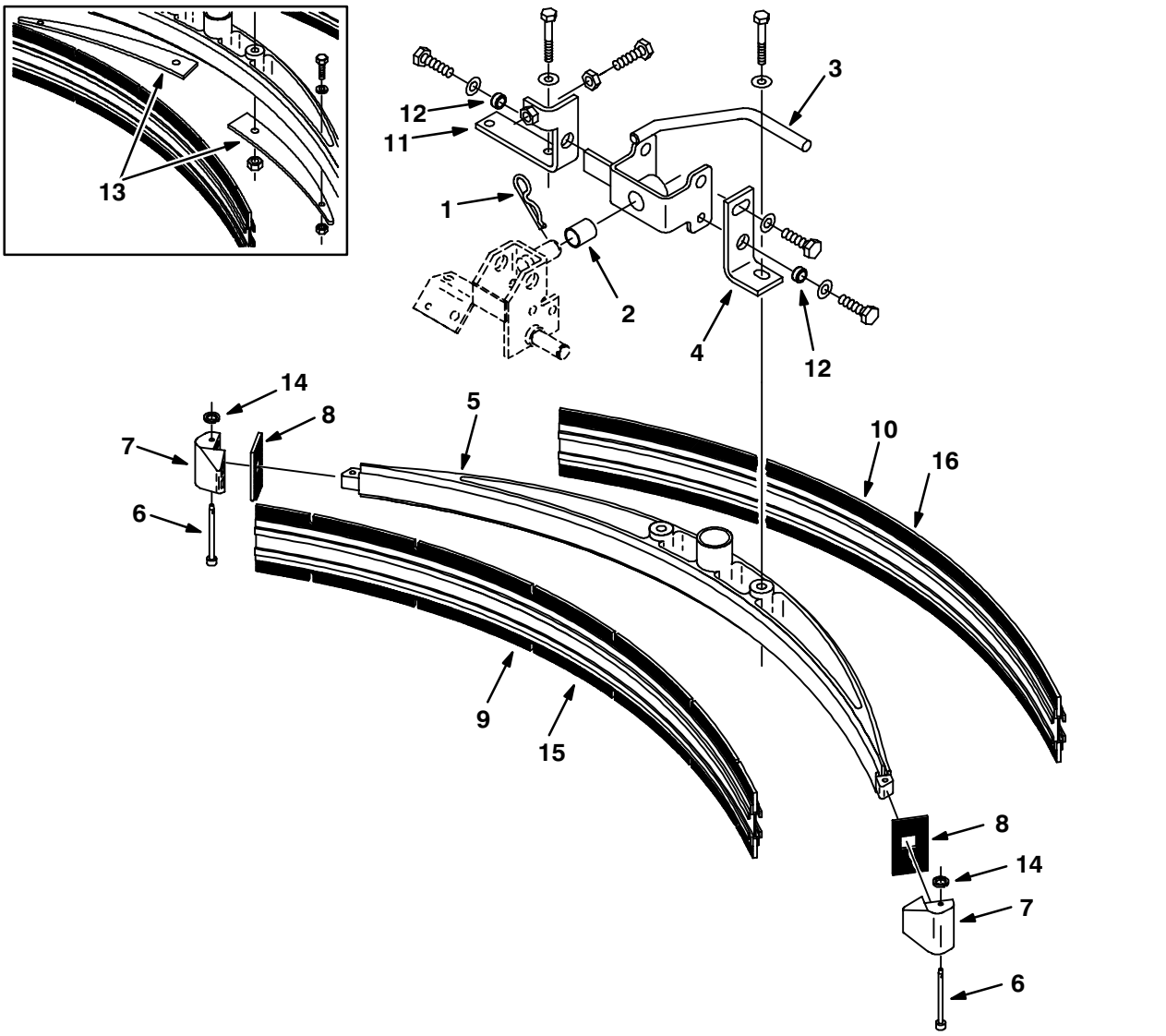


06265/04219

Fig. 18 – Rear Squeegee Link Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	05624	(060000–	)	Washer	1
2	05145	(060000–	)	Sleeve, Squeegee Lift	2
3	33385	(060000–	)	Bracket, Squeegee Lift	1
4	04843	(060000–	)	Bearing, Flange	6
5	63282	(060000–	)	Ball Joint, R.H.	1
6	24926	(060000–	)	Stud, Adjustment	1
7	82962	(060000–	)	Ball Joint, L.H.	1
8	33365	(060000–	)	Bracket, Squeegee Lift	1
9	33355	(060000–	)	Pin, Clevis	1
10	33379	(060000–	)	Axle, Caster Adjustment	1
11	33499	(060000–	)	Bracket, Caster	1
12	05284	(060000–	)	Clip, Retainer	1
13	86800	(060000–	)	Wheel	1
14	33373	(060000–	)	Ring, Retainer	2
15	33358	(060000–	)	Retainer, Spring	2
16	33371	(060000–	)	Link, Connecting	1
17	33404	(060000–	)	Spring, Tension	1
18	33390	(060000–	)	Bracket, Squeegee, Pivot	1
19	64377	(060000–	)	Bearing, Journal	2
20	05099	(060000–	)	Flange, Squeegee Mounting	1
21	33498	(060000–	)	Spring	1
22	64489	(060000–	)	Washer	–
23	33372	(060000–	)	Spring, Tension	1
24	40847–1	(060000–	)	Shim	–
25	04846	(060000–	)	Washer, Thrust	1

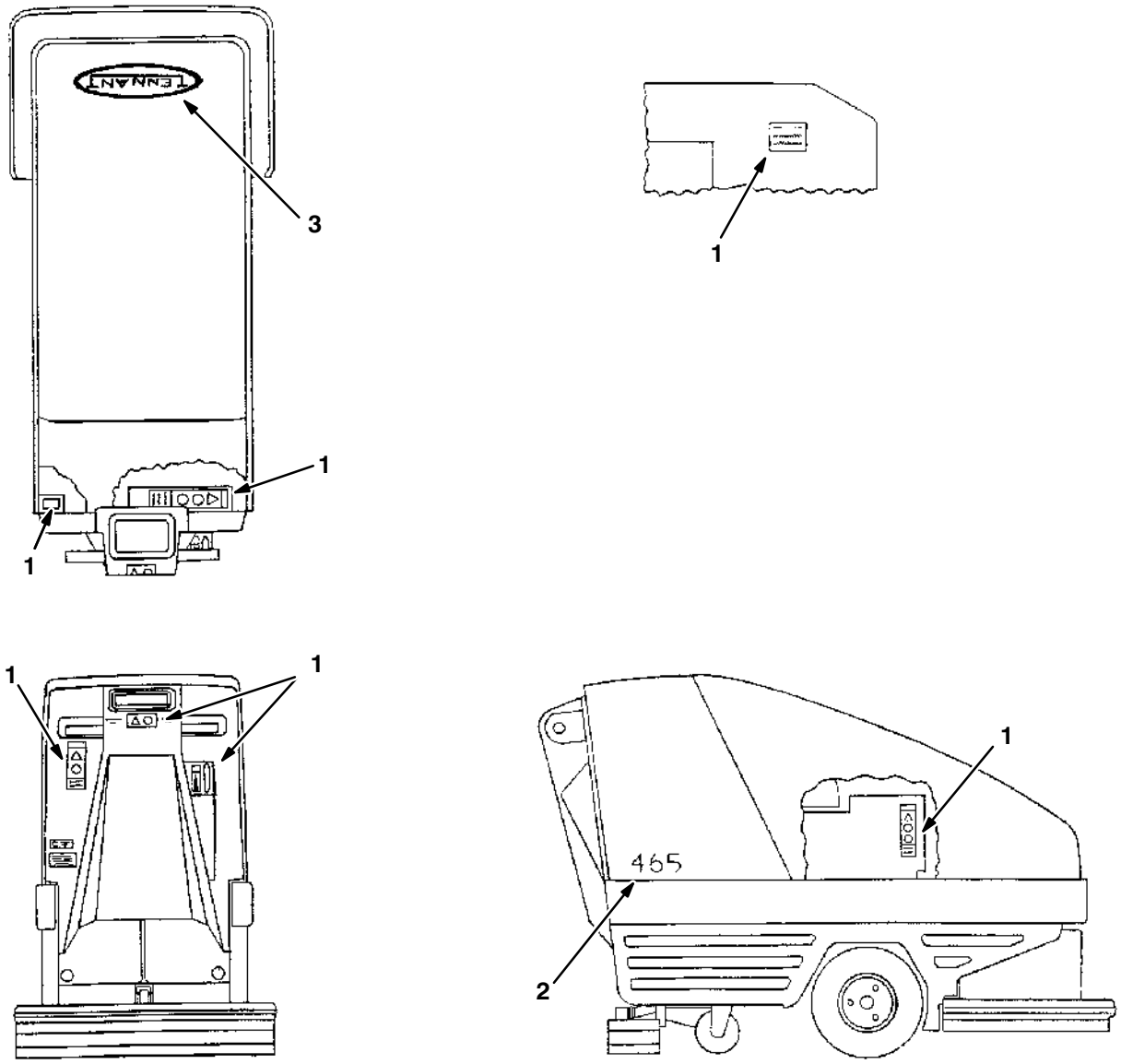
Fig. 19 – Rear Squeegee Group



06266/06296

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
	1	55094	(060000–)	Pin, Hair Cotter	1
	2	04844	(060000–)	Bearing, Journal	1
	3	04816	(060000–)	Bracket, Squeegee Mounting	1
	4	04808	(060000–)	Bracket, Adjustment, L.H.	1
	5	65684	(060000–)	Body, Squeegee	1
	6	33403	(060000–)	Pin, Clevis	2
	7	04752	(060000–)	Bumper, Squeegee	2
∇		33475	(060000–)	Squeegee Blade Kit	1
▲	8	11283	(060000–)	Blade, Squeegee End	2
▲	9	33588	(060000–)	Squeegee Blade Assembly, Front	1
▲	10	33590	(060000–)	Squeegee Blade Assembly, Rear	1
	11	24919	(060000–)	Bracket, Adjustment, R.H.	1
	12	33369	(060000–)	Sleeve, Squeegee	2
	13	28501	(060000–xxxxxx)	Plate, Support (replaced by none)	2
	14	49708	(060000–)	Ring, Split	2
	15	78548	(060000–)	Squeegee Blade Assembly, Front, Urethane	1
	16	78549	(060000–)	Squeegee Blade Assembly, Rear, Urethane	1

Fig. 20 – Label Group



06267/05098

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11541	(060000–)	Label Set, Information and Hazard	1
2	28435	(060000–)	Label, Numerals, 490	2
3	09806	(060000–)	Label, TENNANT Logo, Blue	1

Fig. 21 – Wire Harness Group

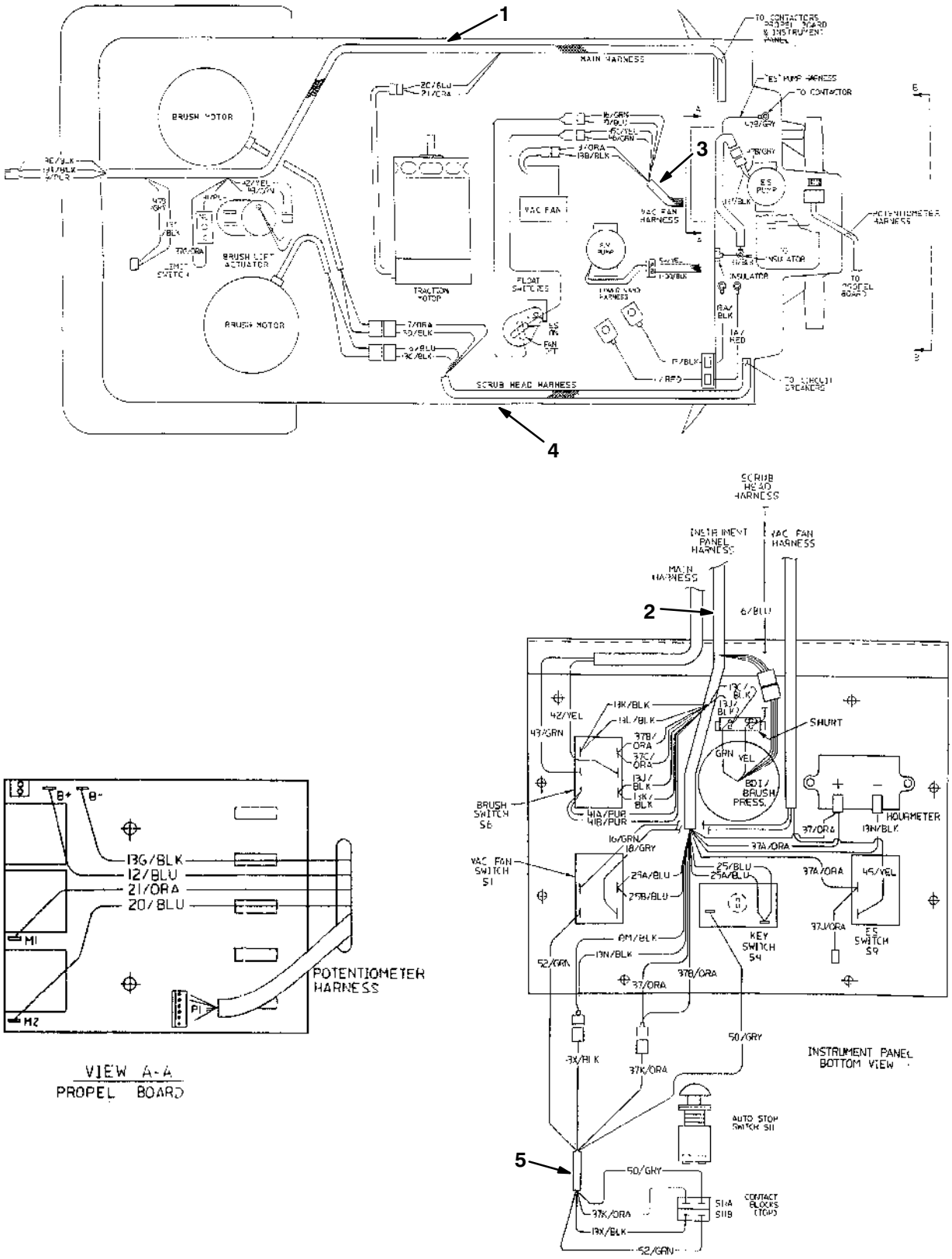
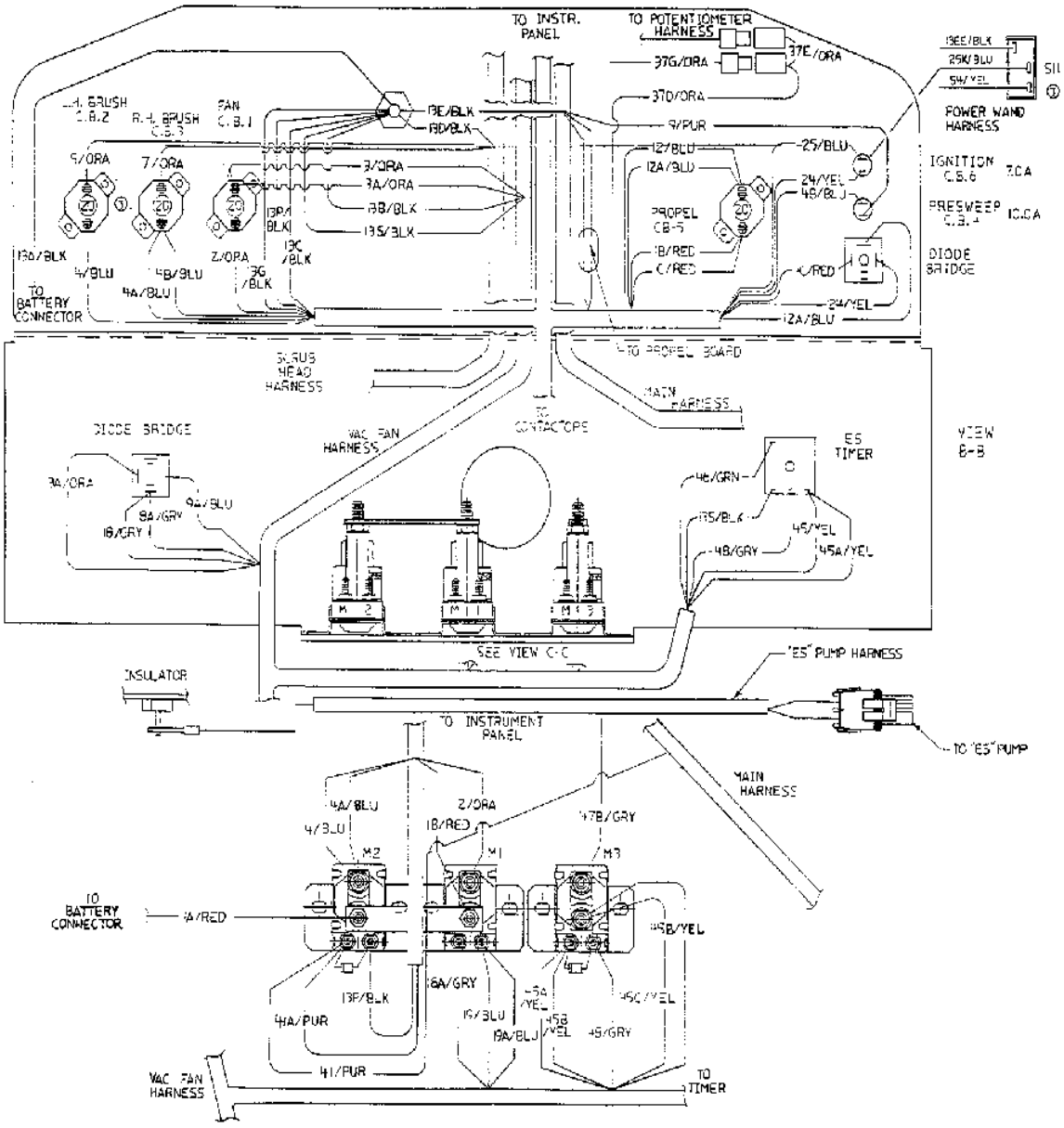


Fig. 21 – Wire Harness Group



06268/05209

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	10940	(060000–)	Harness, Wire, Main	1
2	10938	(060000–)	Harness, Wire, Instrument Panel	1
3	28348	(060000–)	Harness, Wire, Vacuum Fan	1
4	10939	(060000–)	Harness, Wire, Scrub Head	1
5	65696	(060000–)	Harness, Wire, Switch	1

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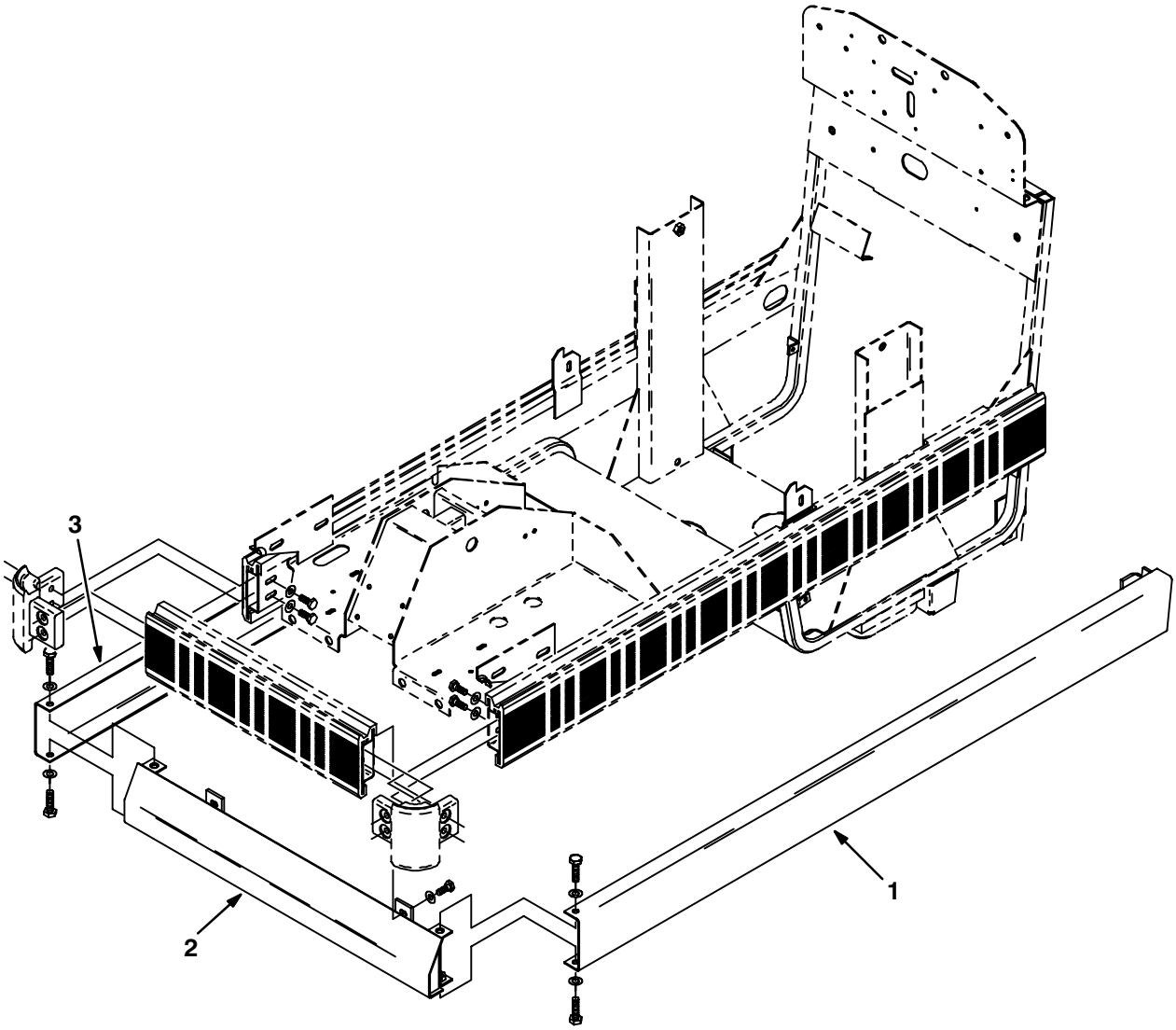
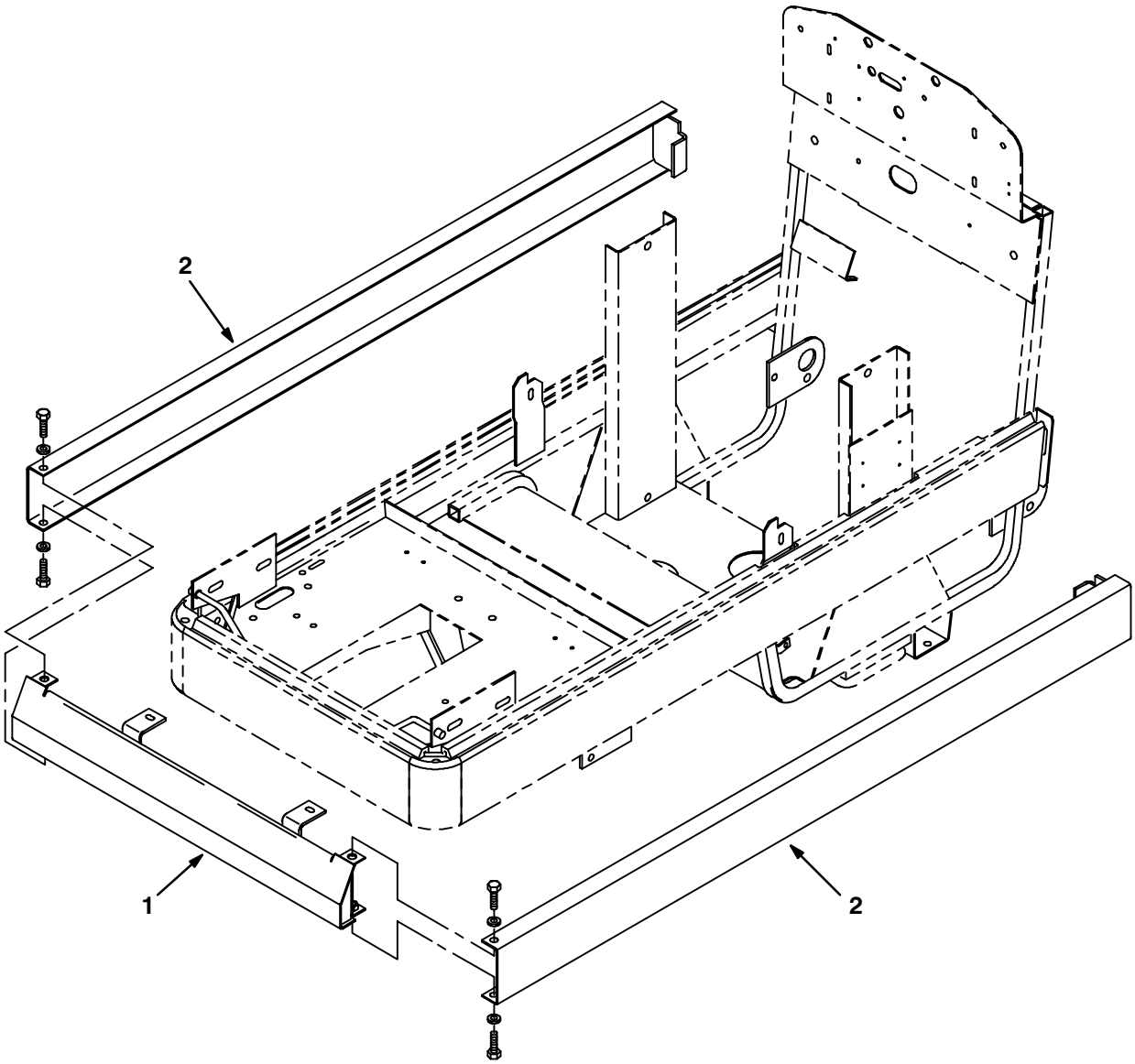
Fig. 1 – Heavy Duty Bumper Kit, 465



05078/04209

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇		05650	(010000–010961)	Heavy Duty Bumper Kit	1
▲	1	11647	(010000–010961)	Bumper, Heavy Duty, L.H.	1
▲	2	11643	(010000–010961)	Bumper, Front	1
▲	3	11648	(010000–010961)	Bumper, Heavy Duty, R.H.	1

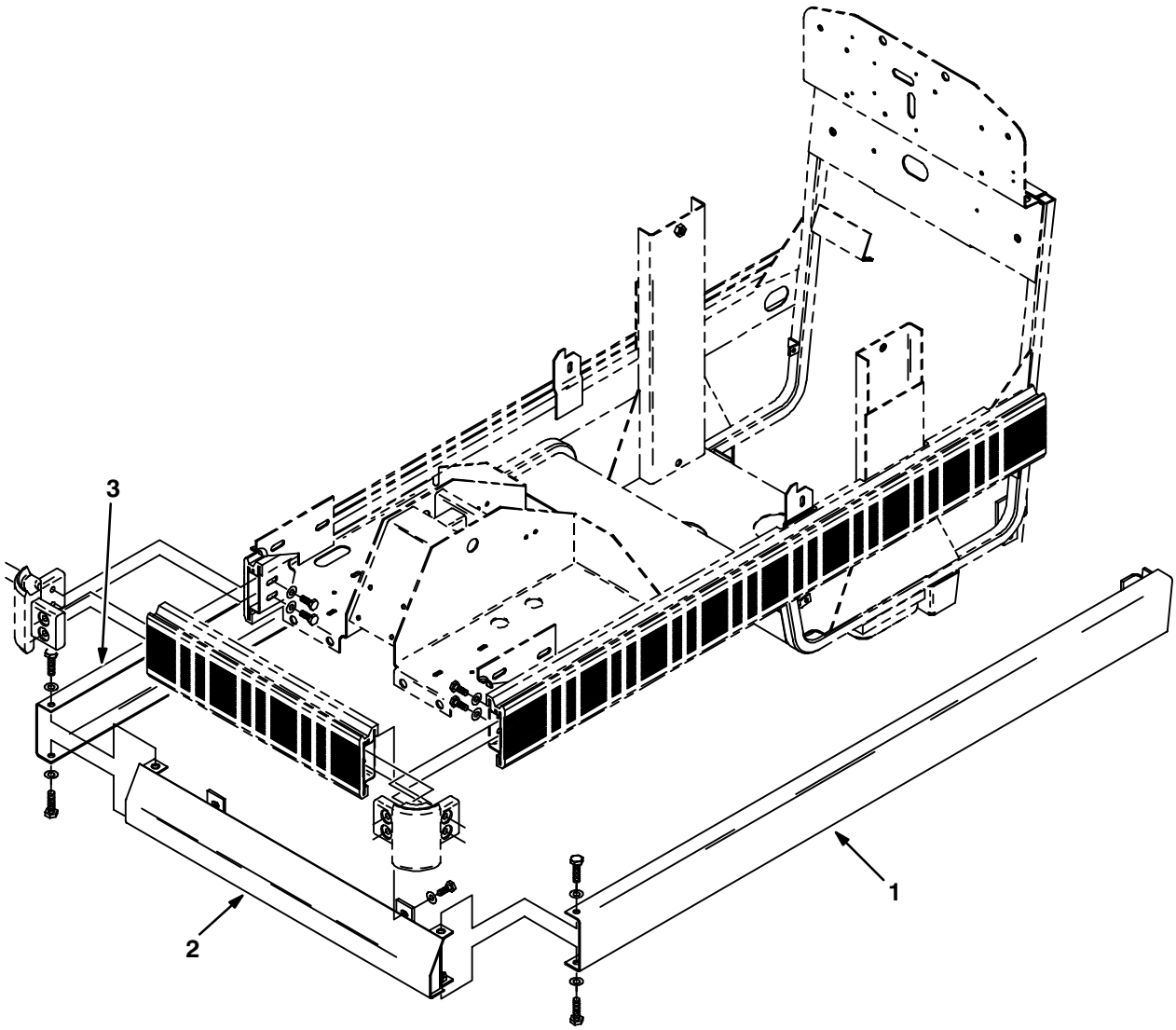
Fig. 2 – Heavy Duty Bumper Kit, 465



06148/06152

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		24836	(010962–	)	Heavy Duty Bumper Kit	1
▲	1	24801	(010962–	)	Bumper, Front	1
▲	2	24942	(010962–	)	Bumper, Side Channel	2

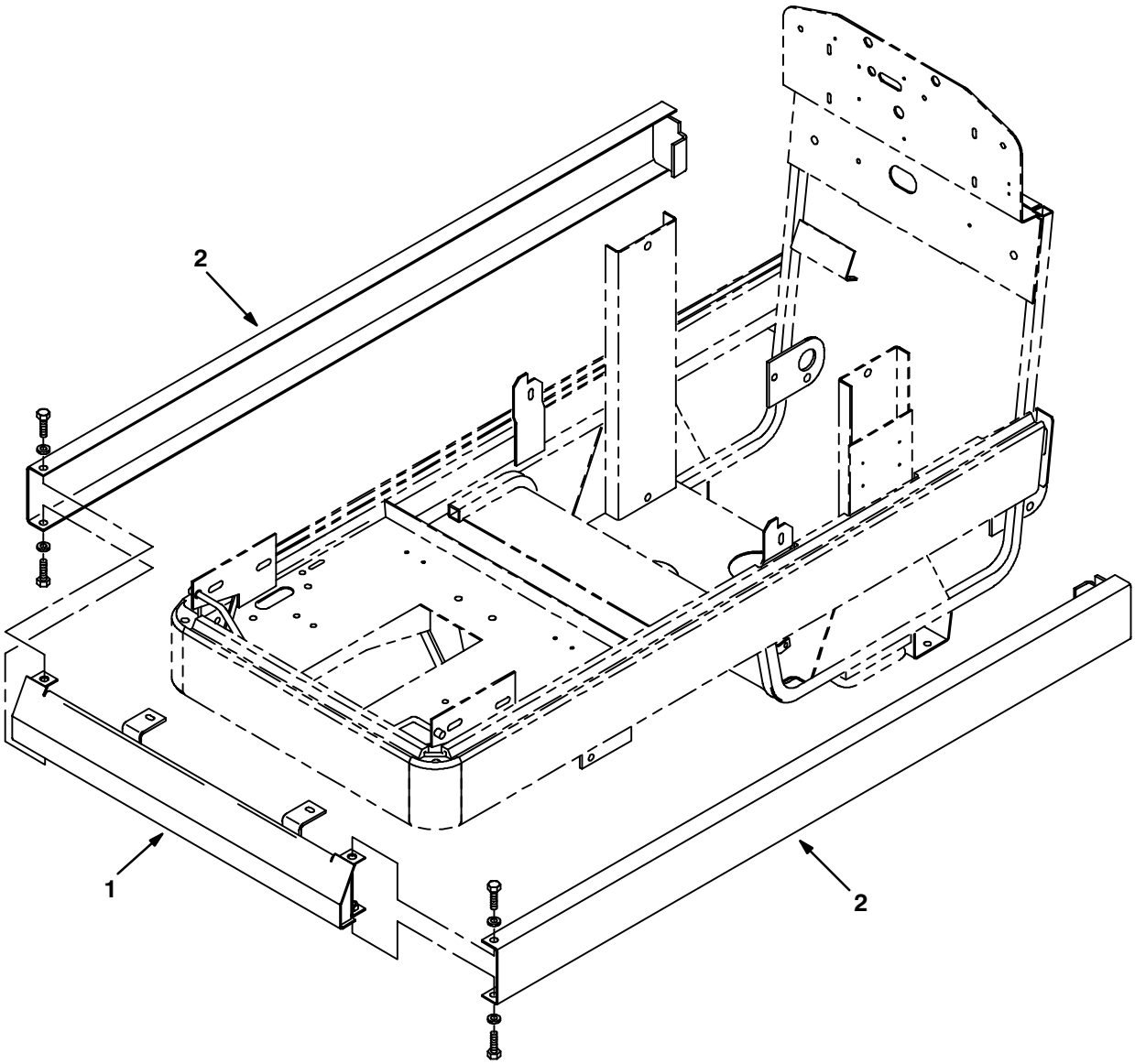
Fig. 3 – Heavy Duty Bumper Kit, 480



05079/04209

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇		11467	(020000–021045)	Heavy Duty Bumper Kit	1
▲	1	11647	(020000–021045)	Bumper, Heavy Duty, L.H.	1
▲	2	11644	(020000–021045)	Bumper, Front	1
▲	3	11648	(020000–021045)	Bumper, Heavy Duty, R.H.	1

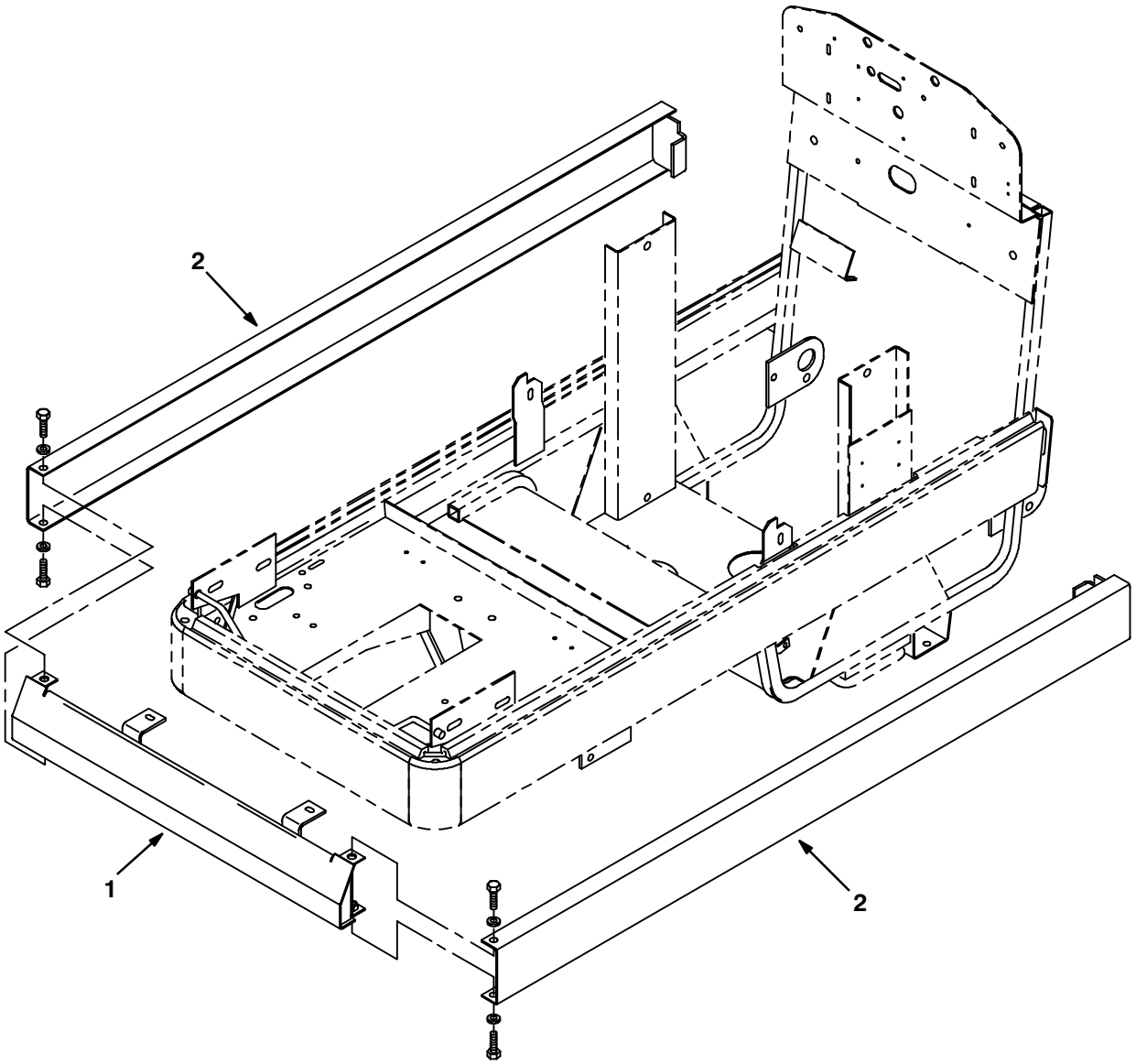
Fig. 4 – Heavy Duty Bumper Kit, 480



06149/06152

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		24837	(021046–	)	Heavy Duty Bumper Kit	1
▲	1	24798	(021046–	)	Bumper, Front	1
▲	2	24942	(021046–	)	Bumper, Side Channel	2

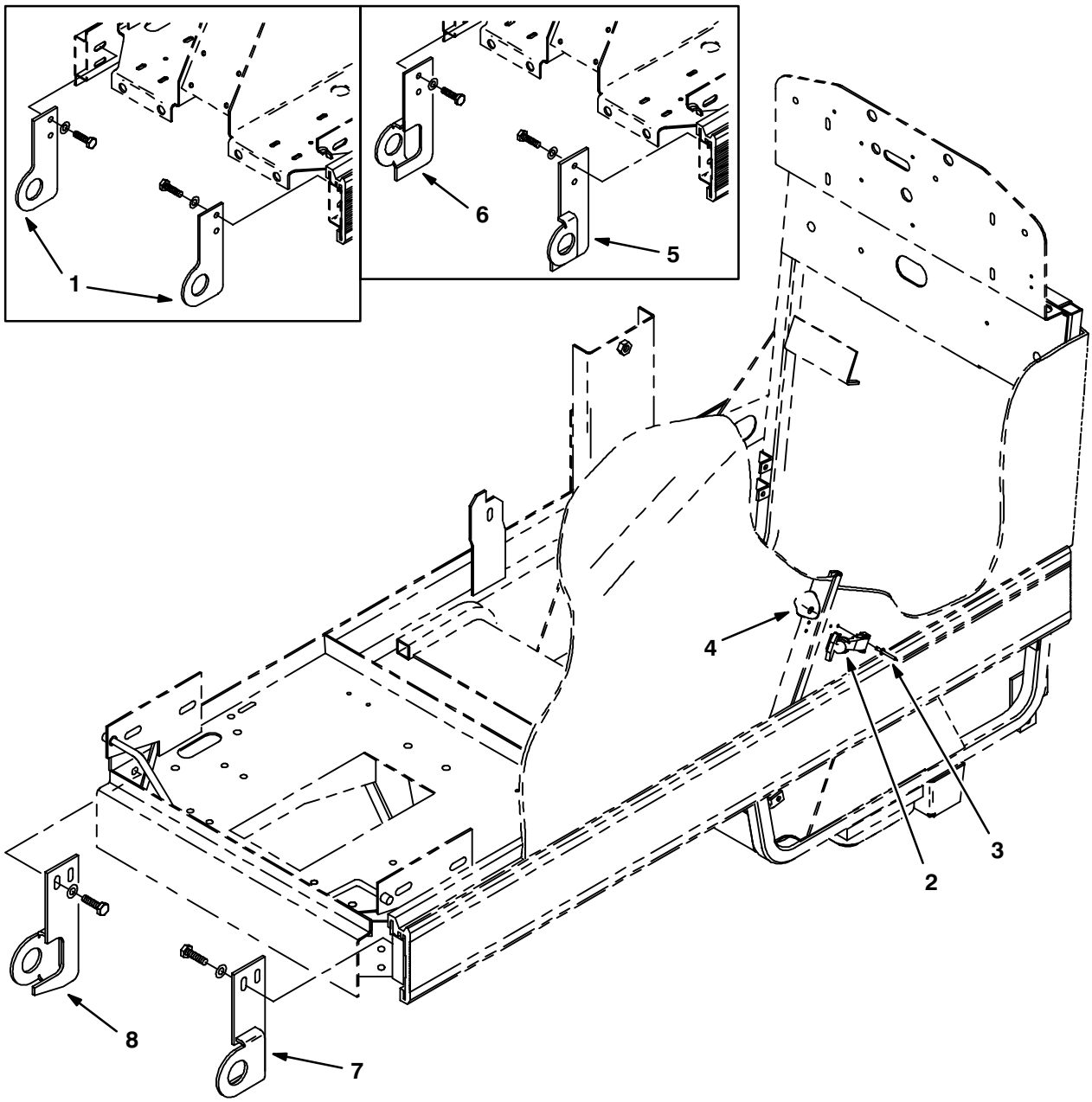
Fig. 5 – Heavy Duty Bumper Kit, 490



06302/06152

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		24837	(060000–	)	Heavy Duty Bumper Kit	1
▲	1	24798	(060000–	)	Bumper, Front	1
▲	2	24942	(060000–	)	Bumper, Side Channel	2

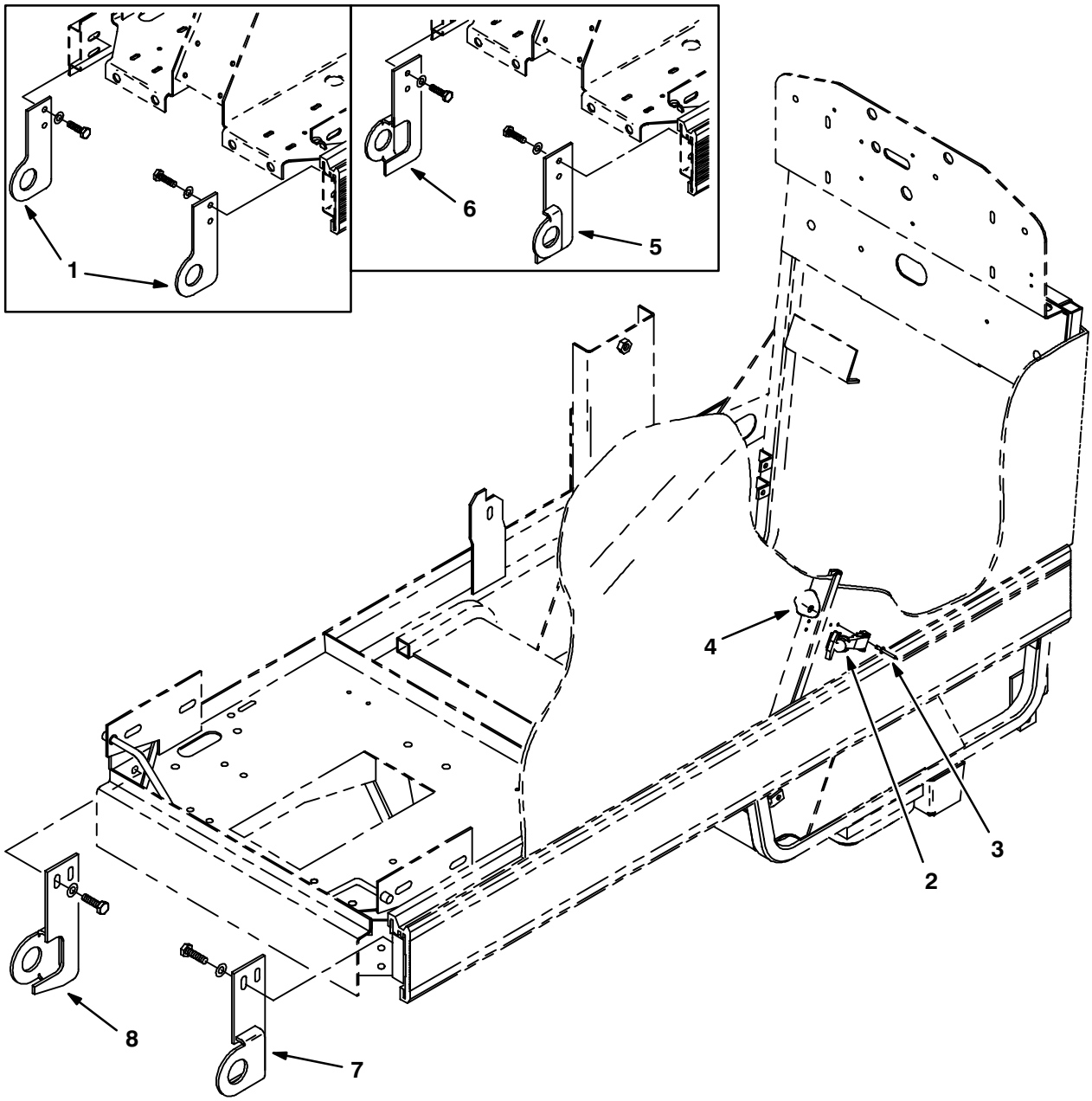
Fig. 6 – Demo Group, 465



06154/05077

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	33497	(010000–010559)	Bracket Kit, Tie Down	1
2	11636	(010000–)	Latch, Flexible Draw	2
3	08875	(010000–)	Rivet, Pop	8
4	02892	(010000–)	Washer	8
5	28356	(010560–010961)	Plate, Tie Down, L.H.	1
6	28357	(010560–010961)	Plate, Tie Down, R.H.	1
7	33530	(010962–)	Plate, Cover Mount, L.H.	1
8	33531	(010962–)	Plate, Cover Mount, R.H.	1

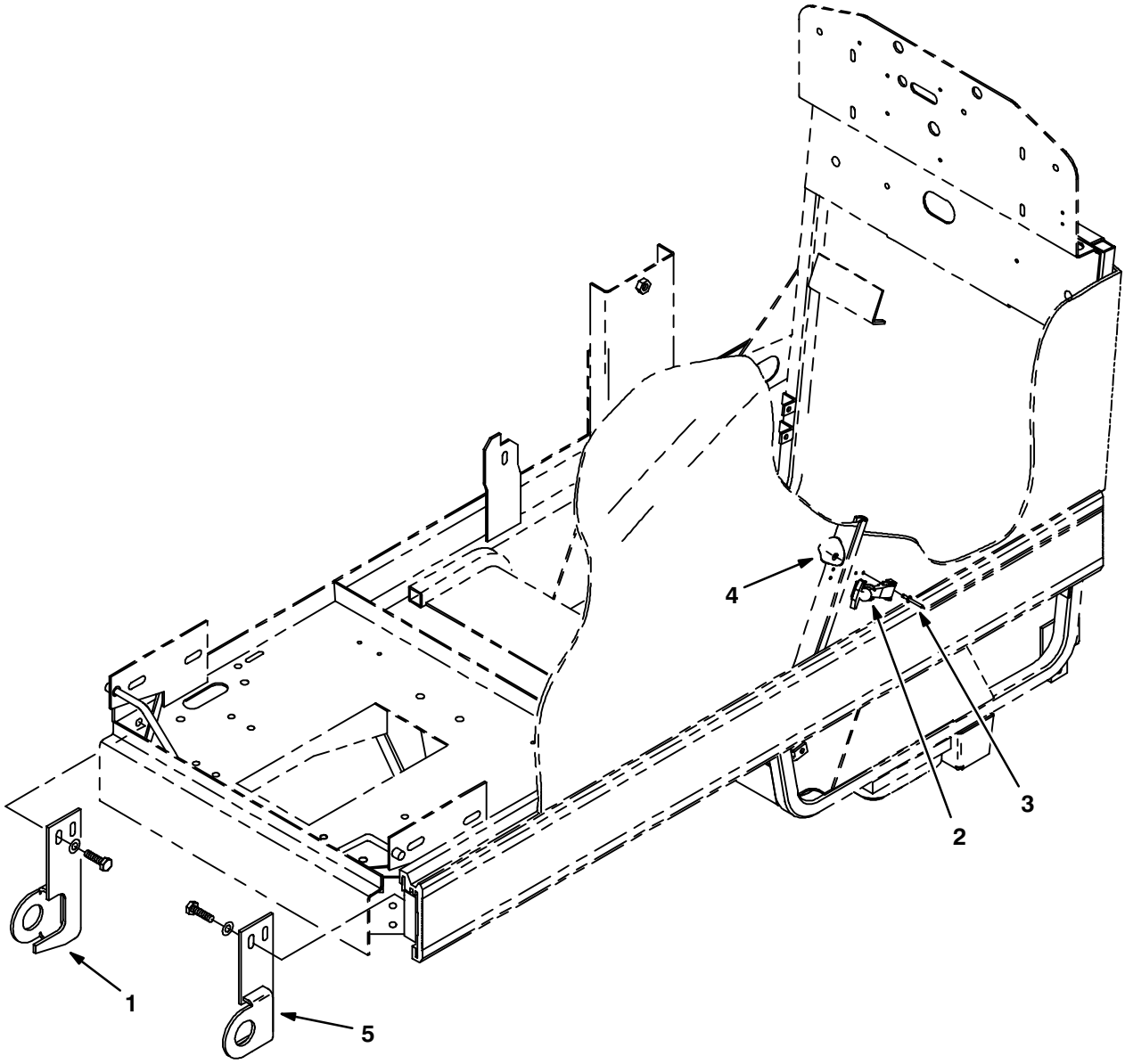
Fig. 7 – Demo Group, 480



06155/05077

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	33497	(020000–020585)	Bracket Kit, Tie Down	1
2	11636	(020000–)	Latch, Flexible Draw	2
3	08875	(020000–)	Rivet, Pop	8
4	02892	(020000–)	Washer	8
5	28356	(020586–021045)	Plate, Tie Down, L.H.	1
6	28357	(020586–021045)	Plate, Tie Down, R.H.	1
7	33530	(021046–)	Plate, Cover Mount, L.H.	1
8	33531	(021046–)	Plate, Cover Mount, R.H.	1

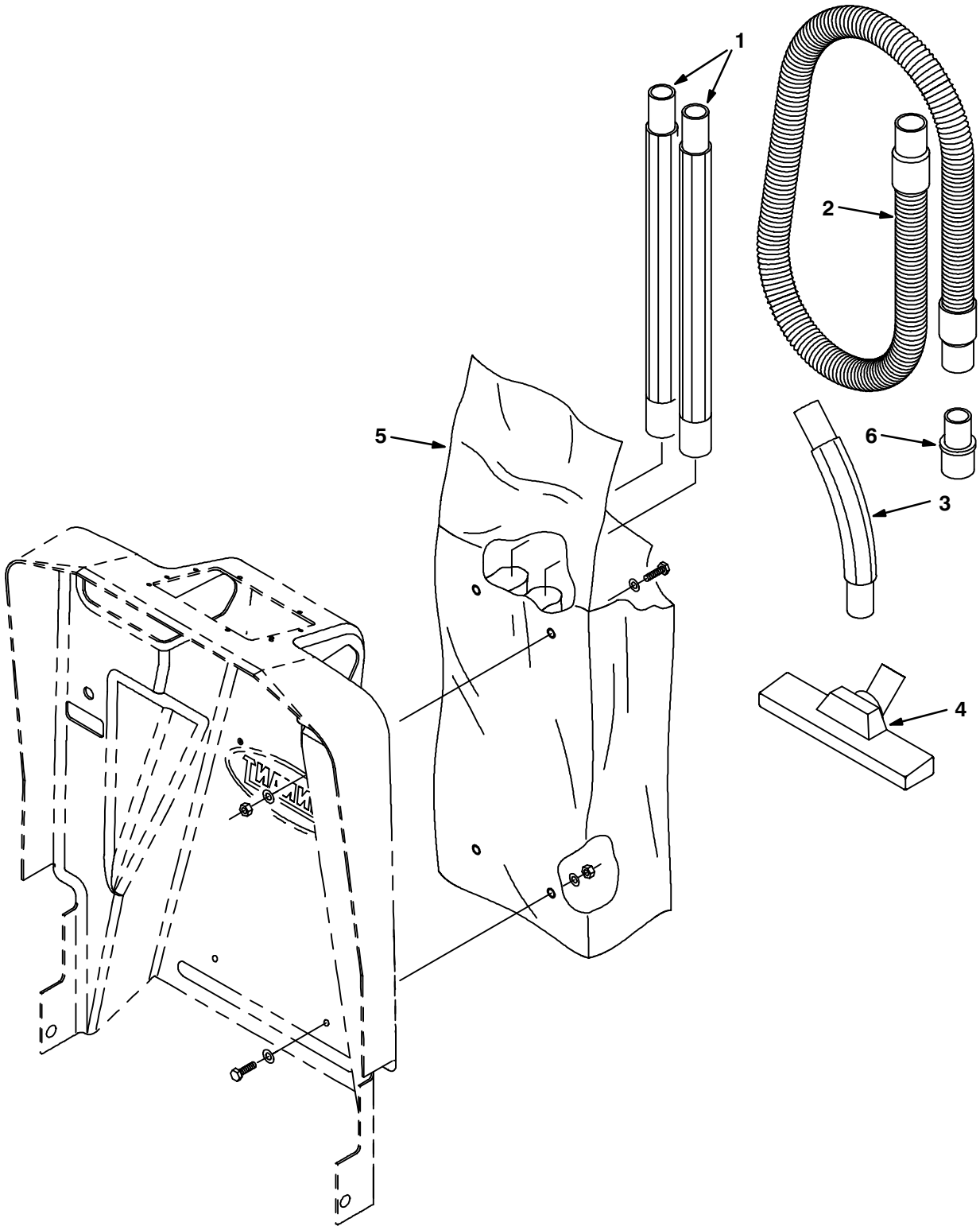
Fig. 8 – Demo Group, 490



06304/05077

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	28584	(060000–	)	Plate, Cover Mount, R.H.	1
2	11636	(060000–	)	Latch, Flexible Draw	2
3	82457	(060000–	)	Rivet, Pop	8
4	02892	(060000–	)	Washer	8
5	28583	(060000–	)	Plate, Cover Mount, L.H.	1

Fig. 9 – Vacuum Wand Kit

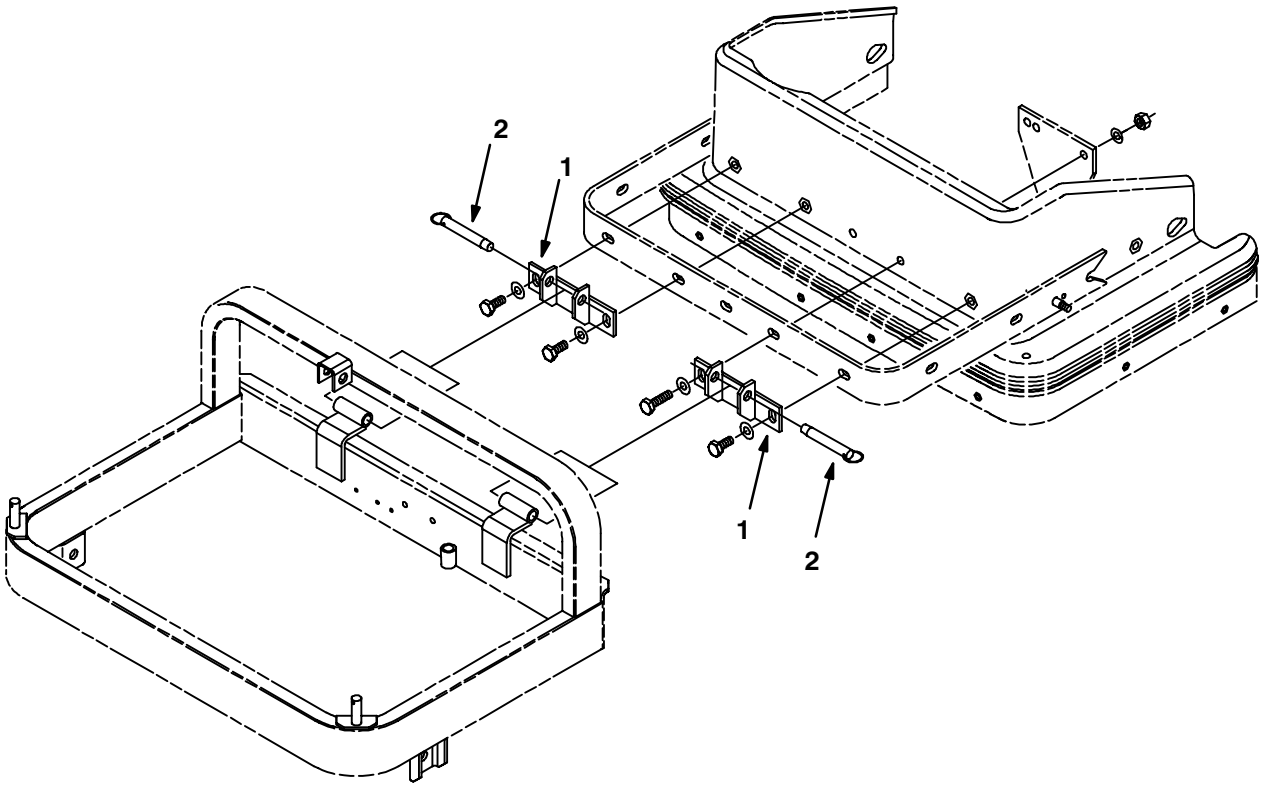


04208/05382

Fig. 9 – Vacuum Wand Kit

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		11667	(000000–	)	Wand Kit, Vacuum	1
▲	1	05579	(000000–	)	Wand, Vacuum	2
▲	2	05594	(000000–	)	Hose Assembly, Vacuum Wand	1
▲	3	05584	(000000–	)	Hose End, Curved	1
▲	4	05578	(000000–	)	Nozzle, Vacuum Wand	1
▲	5	65580	(000000–	)	Bag, Power Wand	1
▲	6	04701	(000000–	)	Fitting, Reducer	1

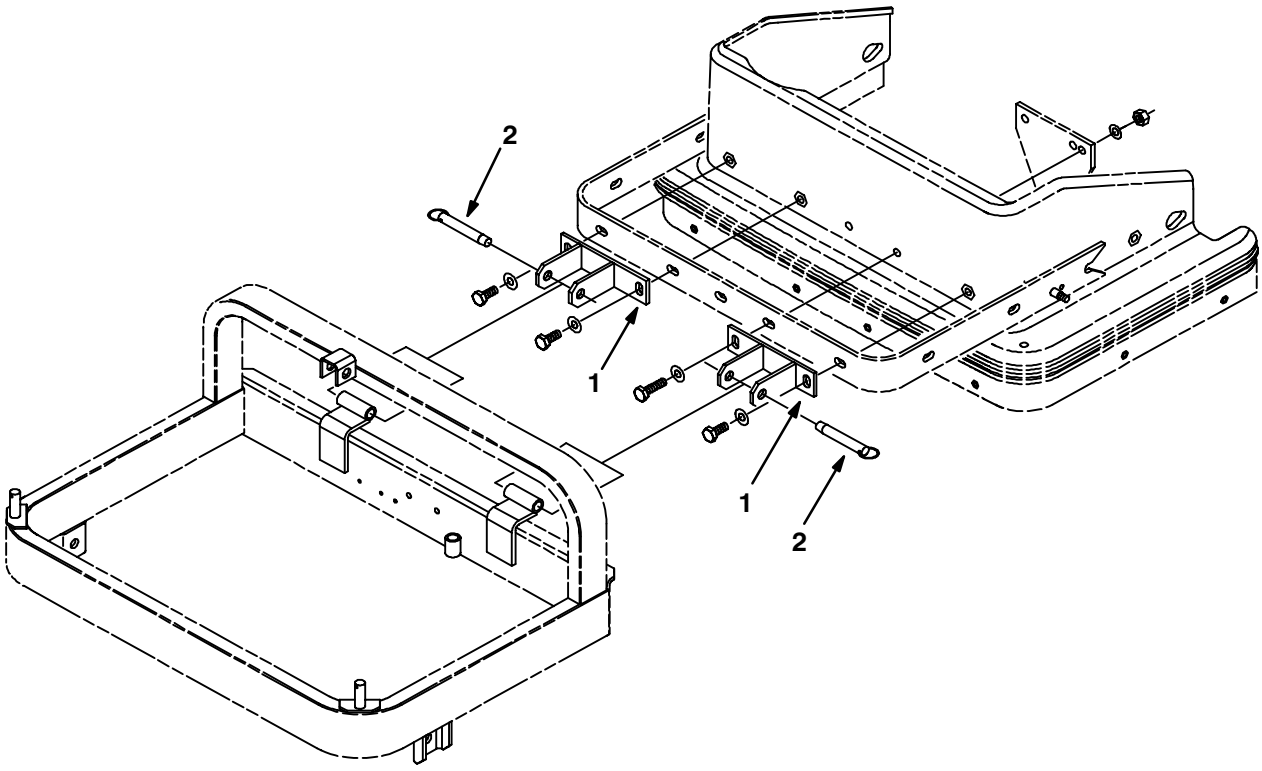
Fig. 10 – Pre-Sweep™ Mounting Group, 465



04213/04213

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	11480	(000000–	)	Bracket, Pivot Mounting	2
2	10985	(000000–	)	Pin, Hitch	2

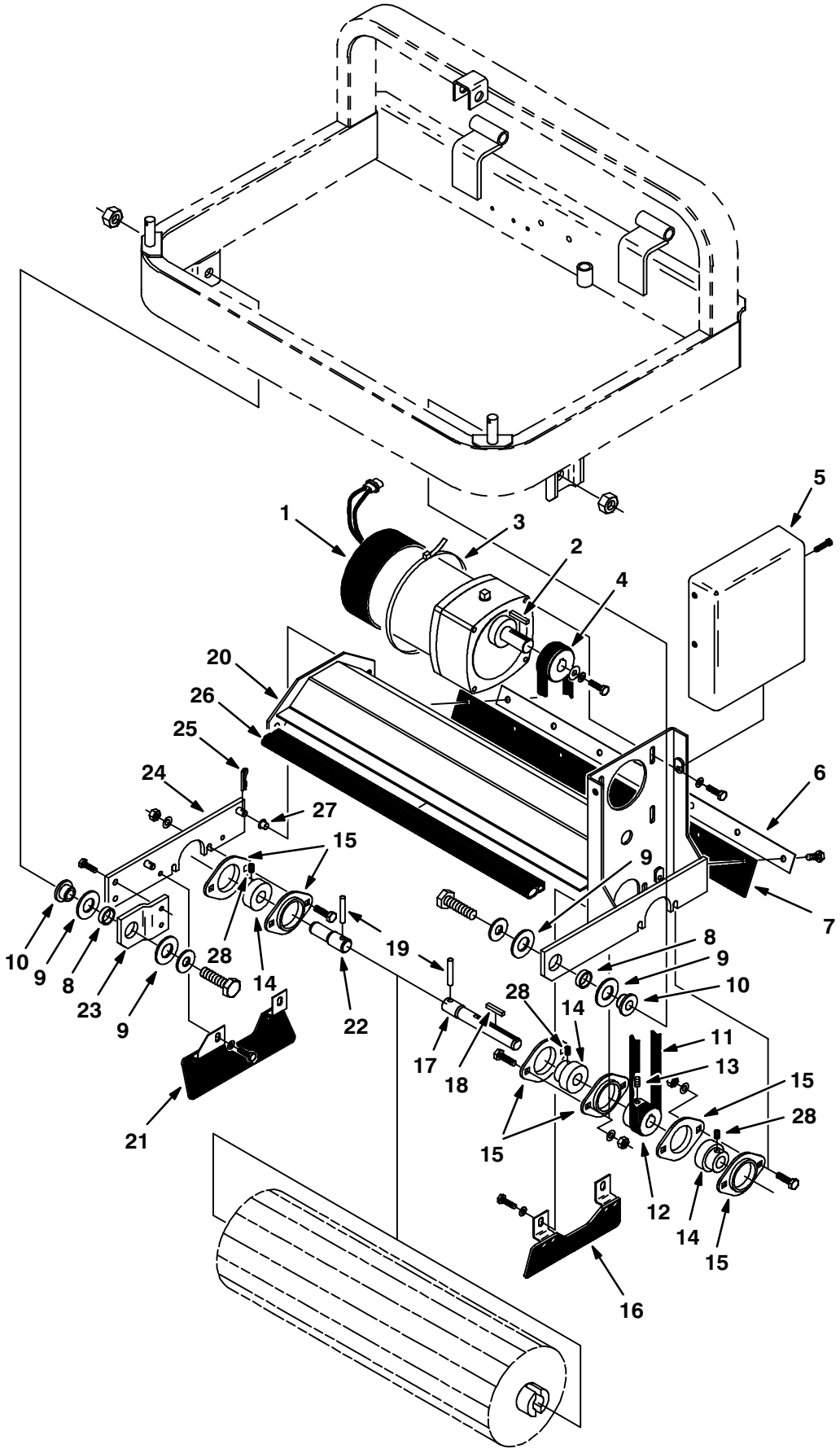
Fig. 11 – Pre-Sweep™ Mounting Group, 480



04214/04214

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	05795	(000000–	)	Bracket, Pivot Mounting	2
2	10985	(000000–	)	Pin, Hitch	2

Fig. 12 – Pre-Sweep™ Drive Group, 465

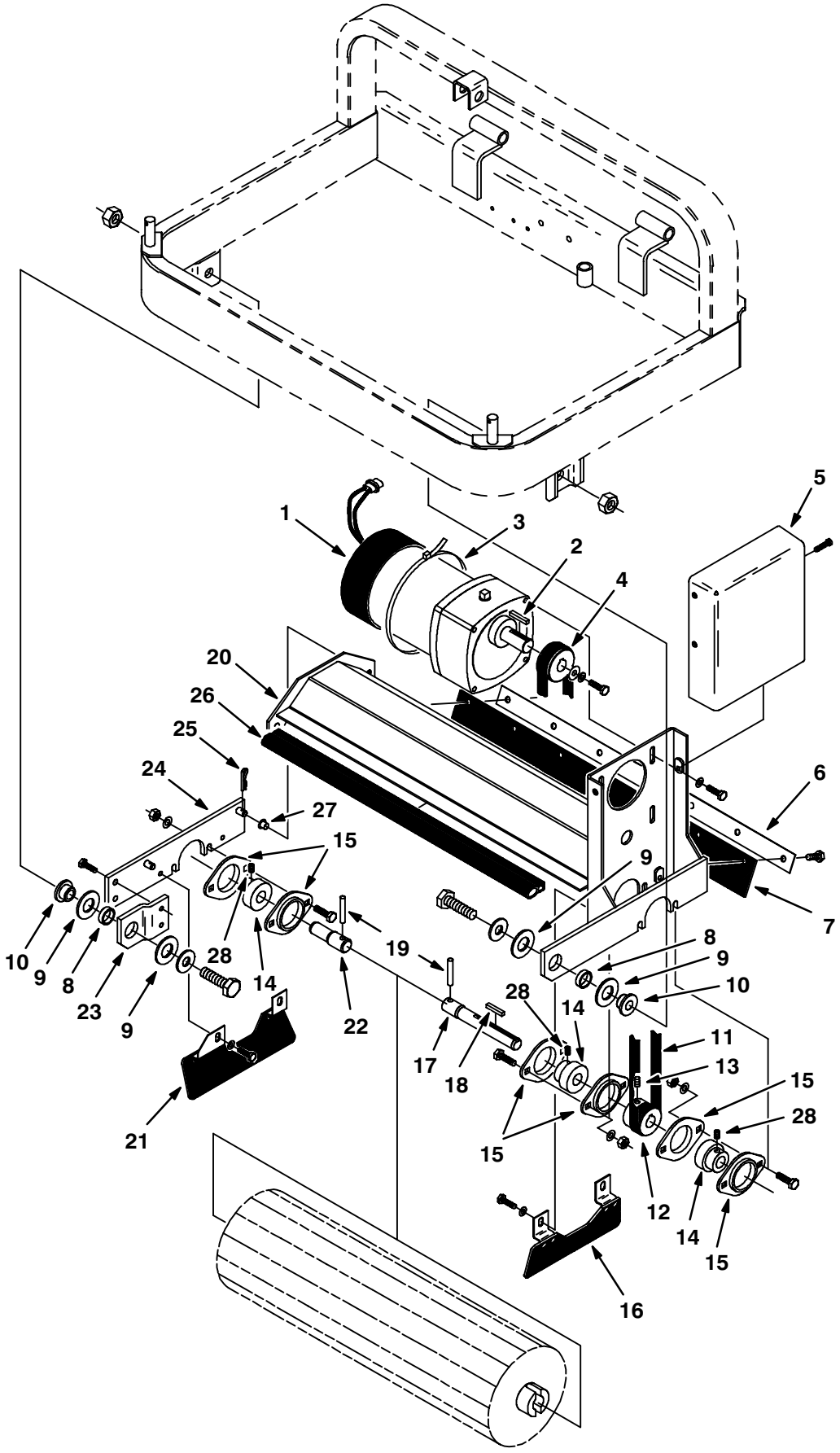


05080/04212

Fig. 12 – Pre-Sweep™ Drive Group, 465

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04656	(000000–)	Motor, Electric (See Breakdowns)	1
2	00911	(000000–)	Key, Square	1
3	44961	(000000–)	Tie, Cable	1
4	04620	(000000–)	Sheave	1
5	04707	(000000–)	Cover, Belt	1
6	11239	(000000–)	Retainer, Recirculation Flap	1
7	11238	(000000–)	Flap, Recirculation	1
8	04710	(000000–)	Bearing	2
9	76979	(000000–)	Bearing, Thrust	4
10	04632	(000000–)	Bushing, Shoulder	2
11	04618	(000000–)	Belt, Multi–V	1
12	04619	(000000–)	Sheave	1
13	09162	(000000–)	Screw, Nylon Lock Set, M6	1
14	48635	(000000–)	Bearing and Collar	3
15	48636	(000000–)	Flange, Bearing	6
16	11213	(000000–)	Skirt Assembly, L.H.	1
17	04629	(000000–)	Shaft, Drive	1
18	00913	(000000–)	Key, Square	1
19	26315	(000000–)	Pin, Roll	2
20	11236	(000000–)	Housing, Brush	1
21	11214	(000000–)	Skirt Assembly, R.H.	1
22	04630	(000000–)	Shaft, Idler	1
23	04645	(000000–)	Arm, Front Brush, R.H.	1
24	04642	(000000–)	Arm, Brush, R.H.	1
25	86866	(000000–)	Pin, Hair Cotter	1
26	11241	(000000–)	Seal, Hopper	1
27	11747	(000000–)	Bearing, Nylon	2
28	57497	(000000–)	Screw, Set	3

Fig. 13 – Pre-Sweep™ Drive Group, 480

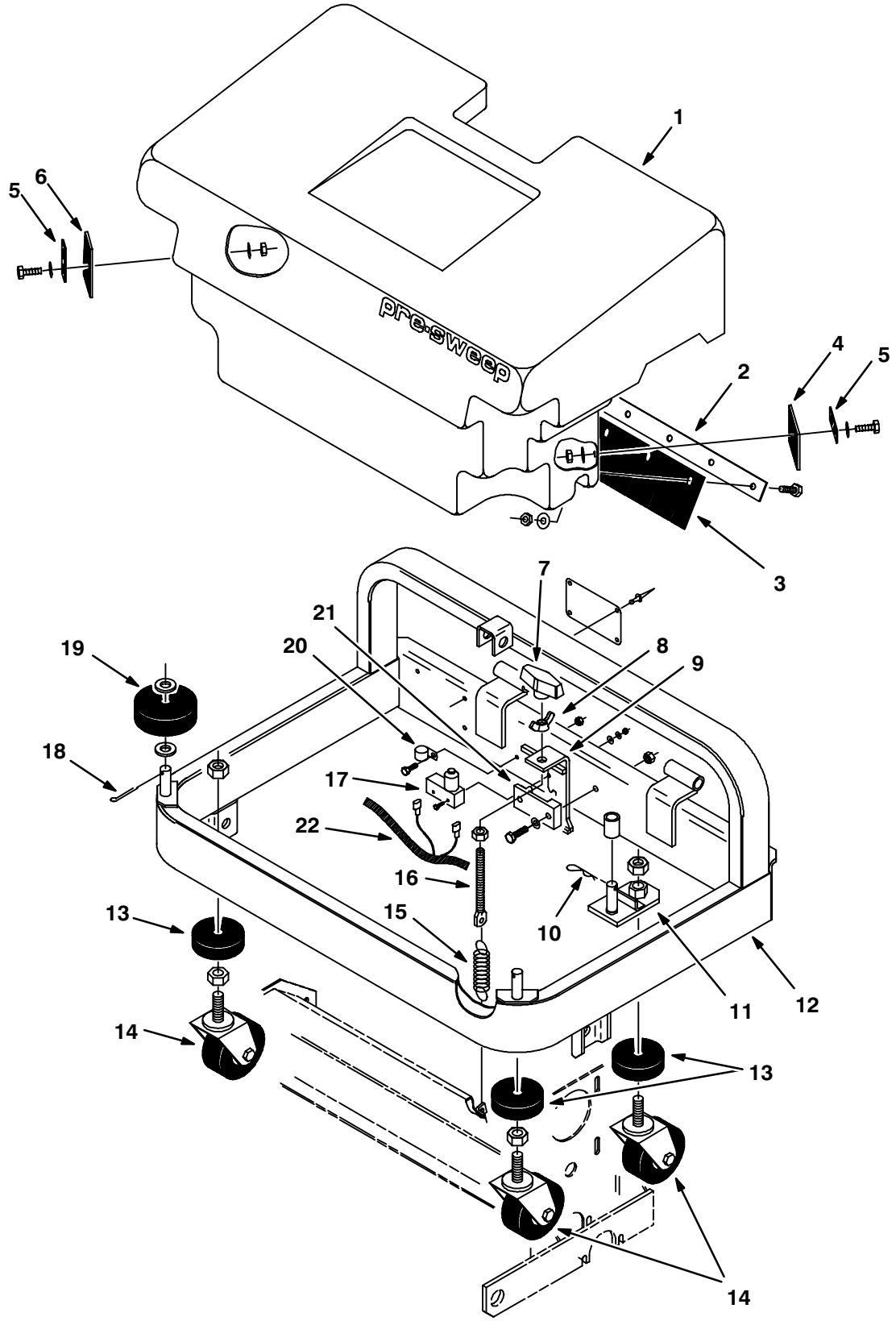


05081/04212

Fig. 13 – Pre-Sweep™ Drive Group, 480

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04656	(000000–)	Motor, Electric, 480 (See Breakdowns)	1
1	27851	(000000–)	Motor, Electric, 480EE (See Breakdowns)	1
2	00911	(000000–)	Key, Square	1
3	44961	(000000–)	Tie, Cable	1
4	04620	(000000–)	Sheave	1
5	04707	(000000–)	Cover, Belt	1
6	04745	(000000–)	Retainer, Recirculation Flap	1
7	04713	(000000–)	Flap, Recirculation	1
8	04710	(000000–)	Bearing	2
9	76979	(000000–)	Bearing, Thrust	4
10	04632	(000000–)	Bushing, Shoulder	2
11	04618	(000000–)	Belt, Multi–V	1
12	04619	(000000–)	Sheave	1
13	09162	(000000–)	Screw, Nylon Lock Set, M6	1
14	48635	(000000–)	Bearing and Collar	3
15	48636	(000000–)	Flange, Bearing	6
16	11213	(000000–)	Skirt Assembly, L.H.	1
17	04629	(000000–)	Shaft, Drive	1
18	00913	(000000–)	Key, Square	1
19	26315	(000000–)	Pin, Roll	2
20	04636	(000000–)	Housing, Brush	1
21	11214	(000000–)	Skirt Assembly, R.H.	1
22	04630	(000000–)	Shaft, Idler	1
23	04645	(000000–)	Arm, Front Brush, R.H.	1
24	04642	(000000–)	Arm, Brush, R.H.	1
25	86866	(000000–)	Pin, Hair Cotter	1
26	04664	(000000–)	Seal, Hopper	1
27	11747	(000000–)	Bearing, Nylon	2
28	57497	(000000–)	Screw, Set	3

Fig. 14 – Pre-Sweep™ Frame Group, 465

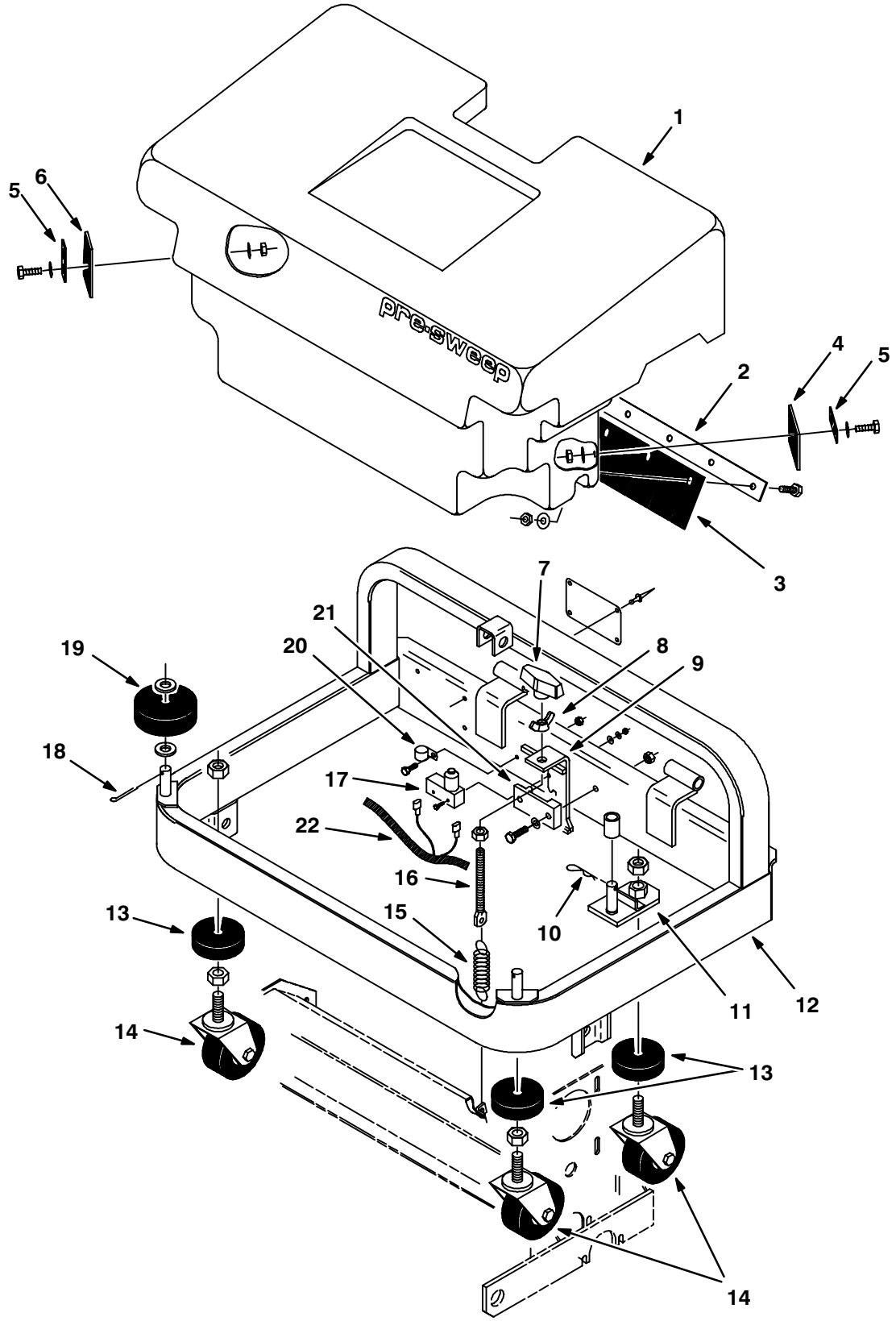


05082/04211

Fig. 14 – Pre-Sweep™ Frame Group, 465

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11149	(000000–)	Hopper, Pre-Sweep™	1
2	11243	(000000–)	Strip, Retainer	1
3	11242	(000000–)	Skirt, Hopper Slit	1
4	06211	(000000–)	Skirt, Hopper, L.H.	1
5	06213	(000000–)	Retainer, Hopper Skirt	2
6	05621	(000000–)	Skirt, Hopper, R.H.	1
7	04706	(000000–)	Handle, Brush Lift	1
8	39273	(000000–)	Nut, Wing	1
9	10970	(000000–)	Bracket, Brush Lift	1
10	02942	(000000–)	Pin, Hair Cotter	1
11	11580	(000000–)	Plate, Caster	1
12	11235	(000000–)	Frame, Pre-Sweep™	1
13	75968	(000000–)	Seal, Bearing	3
14	75977	(000000–)	Caster, Swivel	3
15	04665	(000000–)	Spring, Tension	1
16	04637	(000000–)	Screw, Adjust	1
17	10982	(000000–)	Switch, Micro, SPDT	1
18	08182	(000000–)	Pin, Cotter	2
19	86800	(000000–)	Wheel	2
20	26395–2	(000000–)	Clamp, Cable	1
21	10976	(000000–)	Block, Brush Lift Mounting	1
22	10983	(000000–)	Harness, Pre-Sweep™	1

Fig. 15 – Pre-Sweep™ Frame Group, 480

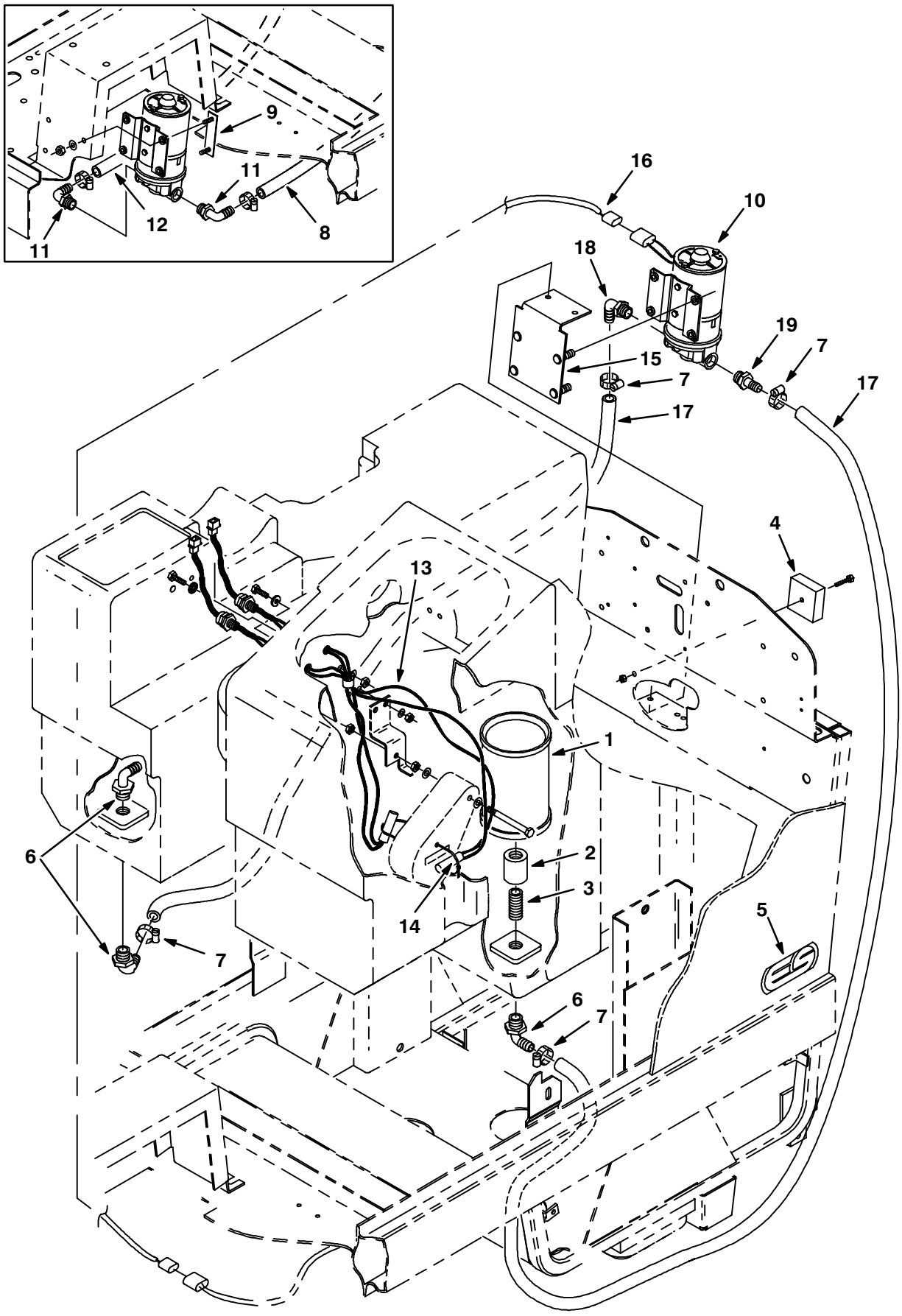


05083/04211

Fig. 15 – Pre–Sweep™ Frame Group, 480

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04625	(000000–)	Hopper, Pre-Sweep™	1
2	04641	(000000–)	Strip, Retainer	1
3	04640	(000000–)	Skirt, Hopper Slit	1
4	06211	(000000–)	Skirt, Hopper, L.H.	1
5	06213	(000000–)	Retainer, Hopper Skirt	2
6	05621	(000000–)	Skirt, Hopper, R.H.	1
7	04706	(000000–)	Handle, Brush Lift	1
8	39273	(000000–)	Nut, Wing	1
9	10970	(000000–)	Bracket, Brush Lift	1
10	02942	(000000–)	Pin, Hair Cotter	1
11	11580	(000000–)	Plate, Caster	1
12	04644	(000000–)	Frame, Pre-Sweep™	1
13	75968	(000000–)	Seal, Bearing	3
14	75977	(000000–)	Caster, Swivel	3
15	04665	(000000–)	Spring, Tension	1
16	04637	(000000–)	Screw, Adjust	1
17	10982	(000000–)	Switch, Micro, SPDT	1
18	08182	(000000–)	Pin, Cotter	2
19	86800	(000000–)	Wheel	2
20	26395–2	(000000–)	Clamp, Cable	1
21	10976	(000000–)	Block, Brush Lift Mounting	1
22	10983	(000000–)	Harness, Pre-Sweep™, 480	1
22	27820	(000000–)	Harness, Pre-Sweep™, 480EE	1

Fig. 16 – Extended Scrub Group, 465

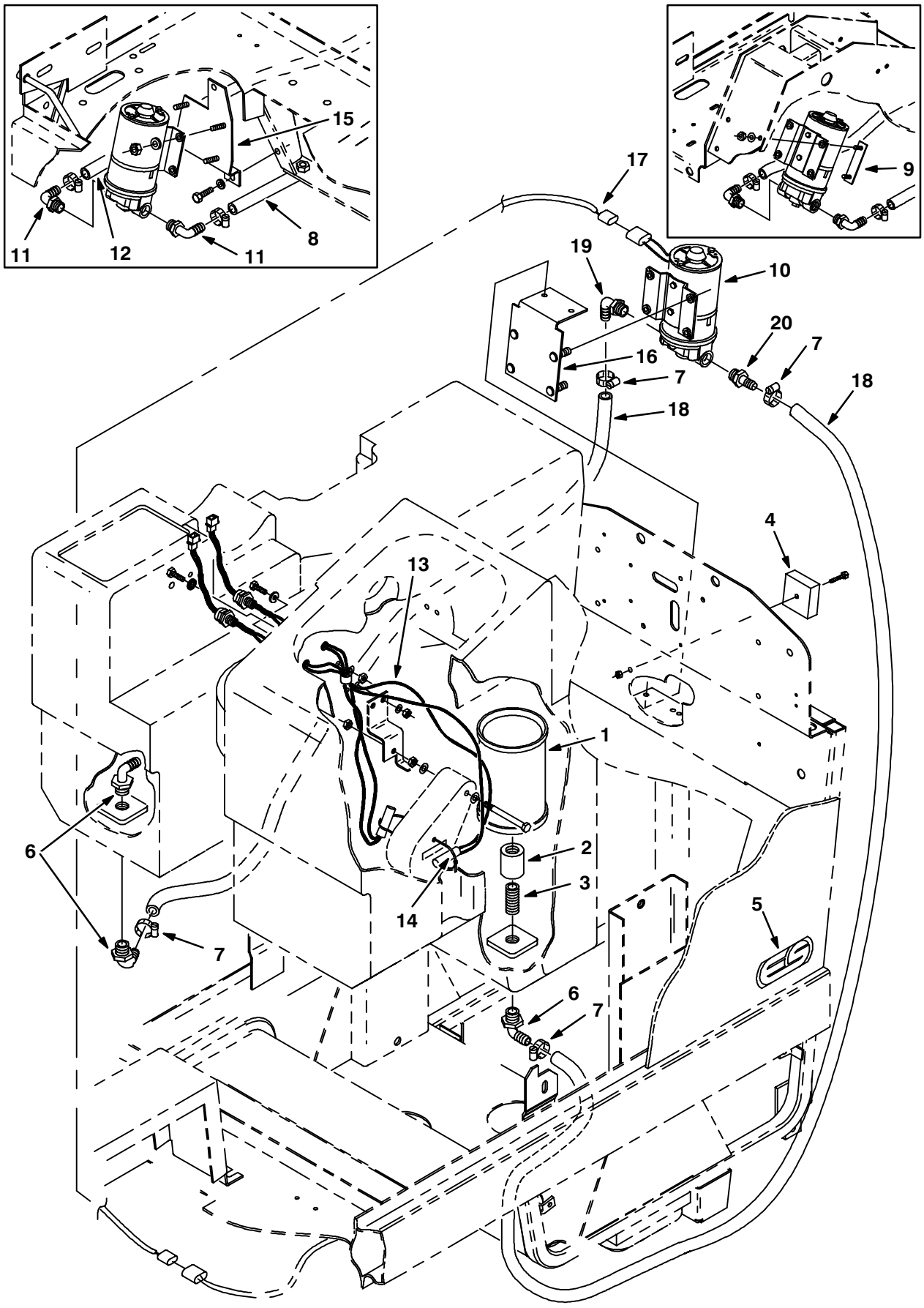


04216/04221

Fig. 16 – Extended Scrub Group, 465

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	41304	(010000–	)	Screen, Double Cylinder Solution	1
2	05134	(010000–	)	Fitting, Coupling	1
3	69784	(010000–	)	Fitting, Nipple	1
4	10968	(010000–	)	Timer, ES™	1
5	14715	(010000–	)	Label, ES™ Logo	2
6	63244–3	(010000–	)	Fitting, Barbed Elbow	3
7	54333	(010000–	)	Clamp, Worm Drive	4
8	05713	(010000–013431	)	Hose, PVC	1
9	04740	(010000–013431	)	Plate, Pump Mounting	2
10	10916	(010000–	)	Pump, Water (See Breakdowns)	1
11	64778	(010000–013431	)	Fitting, Barbed Elbow	2
12	05716	(010000–013431	)	Hose, Vinyl	1
13	10935	(010000–010640	)	Mercury Switch Assembly	1
13	28346	(010641–	)	Mercury Switch Assembly	1
14	49266	(010000–	)	Tie, Cable	2
15	65698	(013432–	)	Bracket, Water Pump	1
16	65718	(013432–	)	Wire Harness, 465	1
17	65713	(013432–	)	Hose, PVC	2
18	64778	(013432–	)	Fitting, Barbed Elbow	1
19	64743	(013432–	)	Fitting, Barbed Straight	1

Fig. 17 – Extended Scrub Group, 480

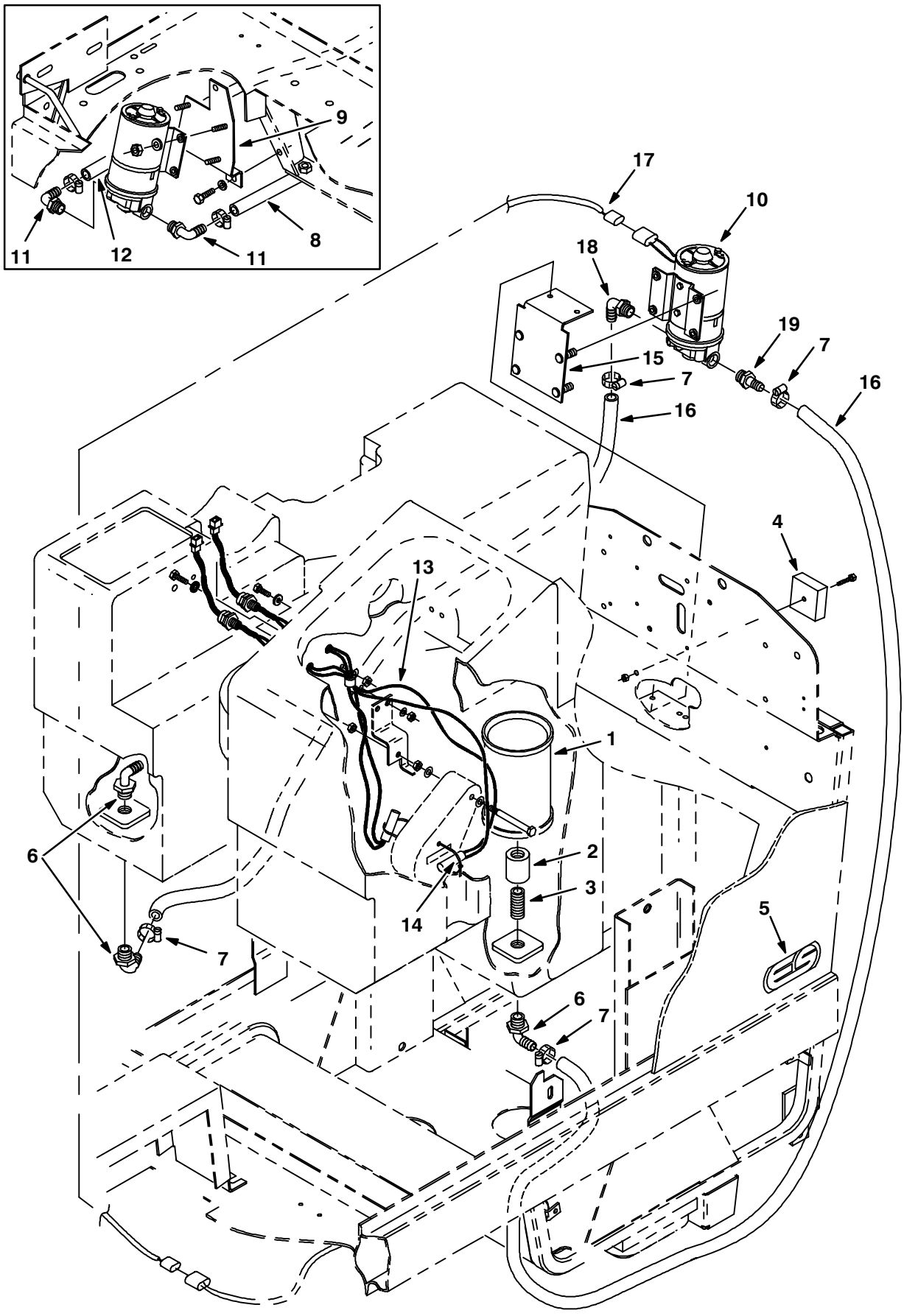


06174/04221

Fig. 17 – Extended Scrub Group, 480

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	41304	(020000–	)	Screen, Double Cylinder Solution	1
2	05134	(020000–	)	Fitting, Coupling	1
3	69784	(020000–	)	Fitting, Nipple	1
4	10968	(020000–	)	Timer, ES™	1
5	14715	(020000–	)	Label, ES™ Logo	2
6	63244–3	(020000–	)	Fitting, Barbed Elbow	3
7	54333	(020000–	)	Clamp, Worm Drive	4
8	05713	(020000–023367	)	Hose, PVC	1
9	04740	(020000–021045	)	Plate, Pump Mounting	2
10	10916	(020000–	)	Pump, Water, 480 (See Breakdowns)	1
10	27839	(020000–	)	Pump, Water, 480EE (See Breakdowns)	1
11	64778	(020000–023367	)	Fitting, Barbed Elbow	2
12	05716	(020000–023367	)	Hose, Vinyl	1
13	10935	(020000–020635	)	Mercury Switch Assembly	1
13	28346	(020636–	)	Mercury Switch Assembly	1
14	49266	(020000–	)	Tie, Cable	2
15	27953	(021046–023367	)	Bracket, Mount	1
16	65698	(023368–	)	Bracket, Water Pump	1
17	65718	(023368–	)	Wire Harness, 480	1
17	65716	(023368–	)	Wire Harness, 480EE	1
18	65713	(023368–	)	Hose, PVC	2
19	64778	(023368–	)	Fitting, Barbed Elbow	1
20	64743	(023368–	)	Fitting, Barbed Straight	1

Fig. 18 – Extended Scrub Group, 490

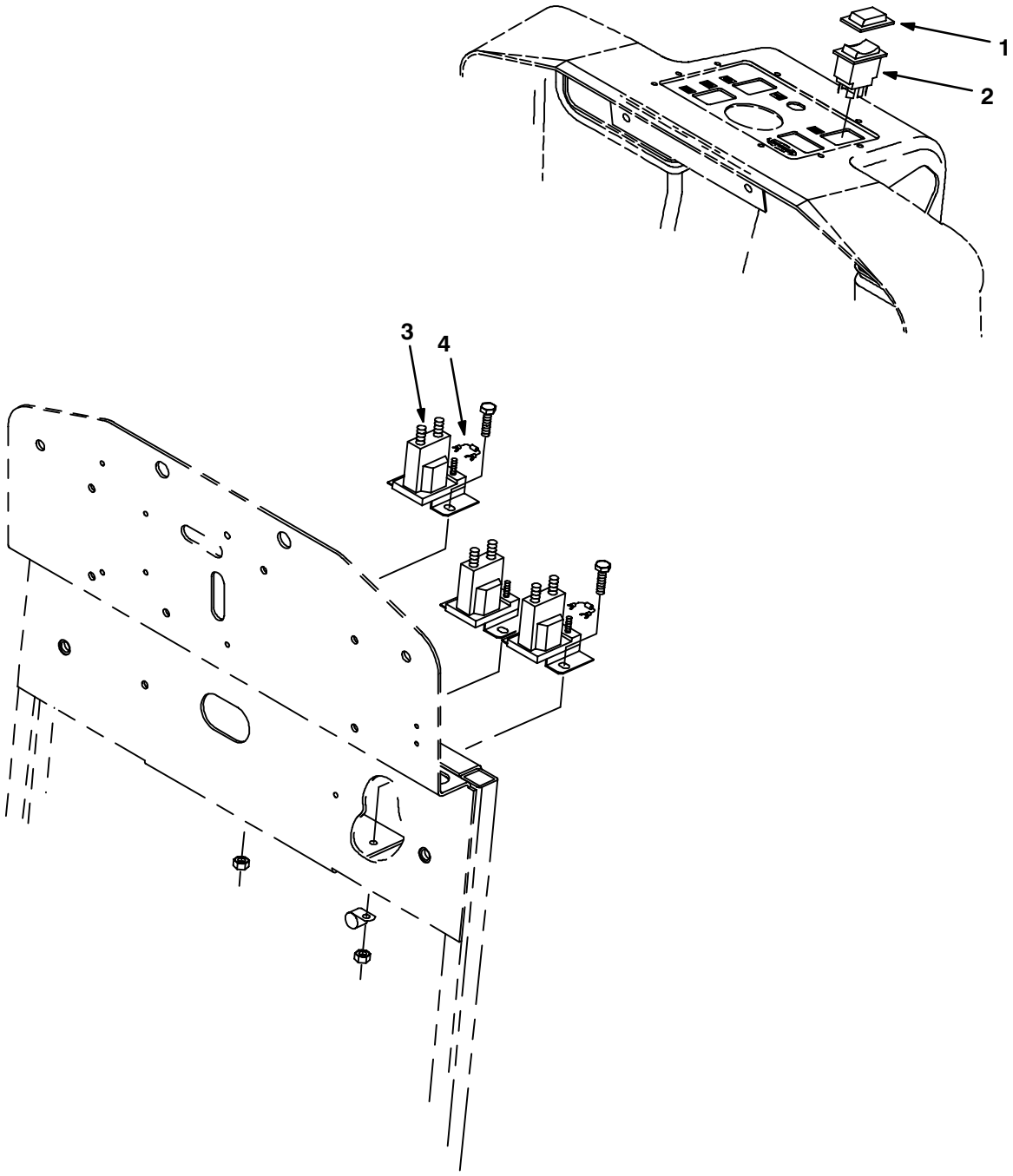


06306/04221

Fig. 18 – Extended Scrub Group, 490

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	41304	(060000–	)	Screen, Double Cylinder Solution	1
2	05134	(060000–	)	Fitting, Coupling	1
3	69784	(060000–	)	Fitting, Nipple	1
4	10968	(060000–	)	Timer, ES™	1
5	14715	(060000–	)	Label, ES™ Logo	2
6	63244–3	(060000–	)	Fitting, Barbed Elbow	3
7	54333	(060000–	)	Clamp, Worm Drive	4
8	05713	(060000–060229	)	Hose, PVC	1
9	27953	(060000–060229	)	Bracket, Mount	1
10	10916	(060000–	)	Pump, Water (See Breakdowns)	1
11	64778	(060000–060229	)	Fitting, Barbed Elbow	2
12	05716	(060000–060229	)	Hose, Vinyl	1
13	28346	(060000–	)	Mercury Switch Assembly	1
14	49266	(060000–	)	Tie, Cable	2
15	65698	(060230–	)	Bracket, Water Pump	1
16	65713	(060230–	)	Hose, PVC	2
17	65718	(060230–	)	Wire Harness, 490	1
18	64778	(060230–	)	Fitting, Barbed Elbow	1
19	64743	(060230–	)	Fitting, Barbed Straight	1

Fig. 19 – Extended Scrub Electrical Group

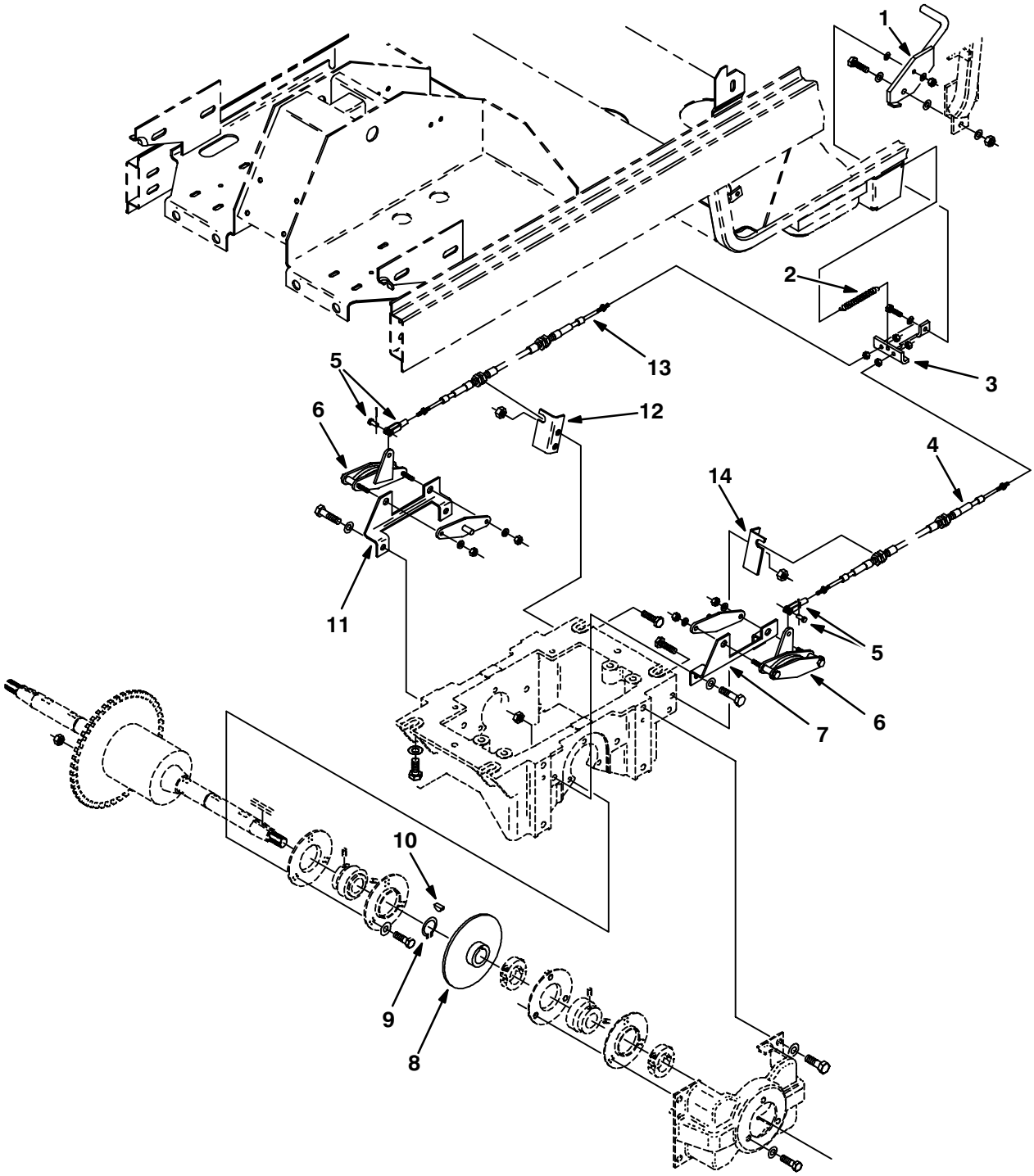


05088/04768

Fig. 19 – Extended Scrub Electrical Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	57807	(000000–	)	Cover, Rocker Switch Seal	1
2	65561	(000000–	)	Switch, Rocker, SPST	1
3	04685	(000000–	)	Contactor, SPST	1
4	32234	(000000–	)	Diode Assembly	1

Fig. 20 – Single Parking Brake Group

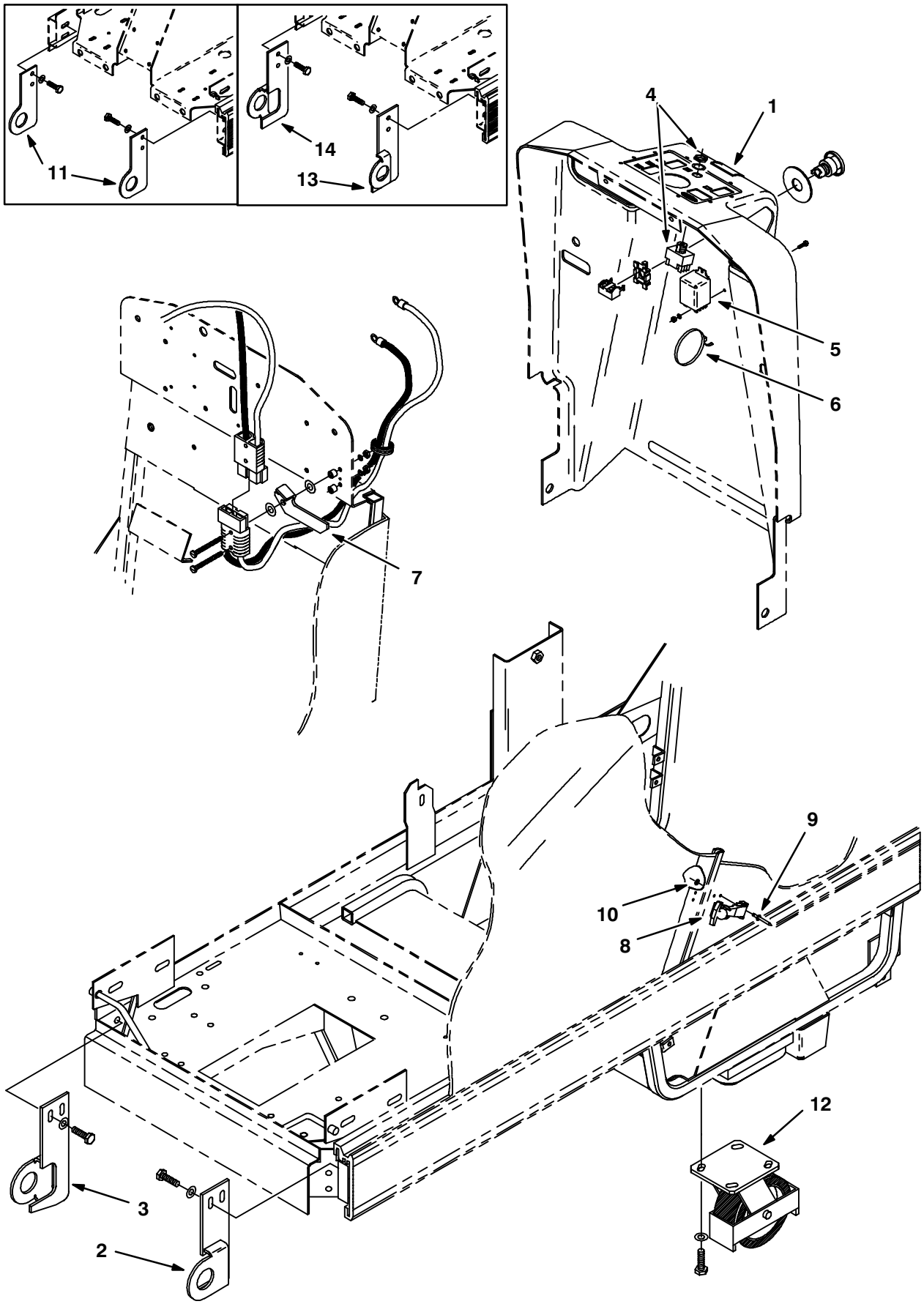


04204/04204

Fig. 20 – Single Parking Brake Group

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	05409	(000000–	)	Pedal, Brake	1
2	05552	(000000–	)	Spring, Tension	1
3	05396	(000000–	)	Bracket, Brake	1
4	05520	(000000–	)	Cable, Push Pull	1
5	27880	(000000–	)	Yoke Assembly	2
6	35921	(000000–	)	Disc Brake Assembly	2
7	05609	(000000–	)	Bracket, Caliper, L.H.	1
8	05297	(000000–	)	Hub and Disc Assembly	2
9	09005	(000000–	)	Ring, Retaining	2
10	00500–15	(000000–	)	Key, Woodruff	2
11	05610	(000000–	)	Bracket, Caliper, R.H.	1
12	06210	(000000–	)	Bracket, Brake Cable, R.H.	1
13	05532	(000000–	)	Cable, Push Pull	1
14	06209	(000000–	)	Bracket, Brake Cable, L.H.	1

Fig. 21 – GS Group, 465

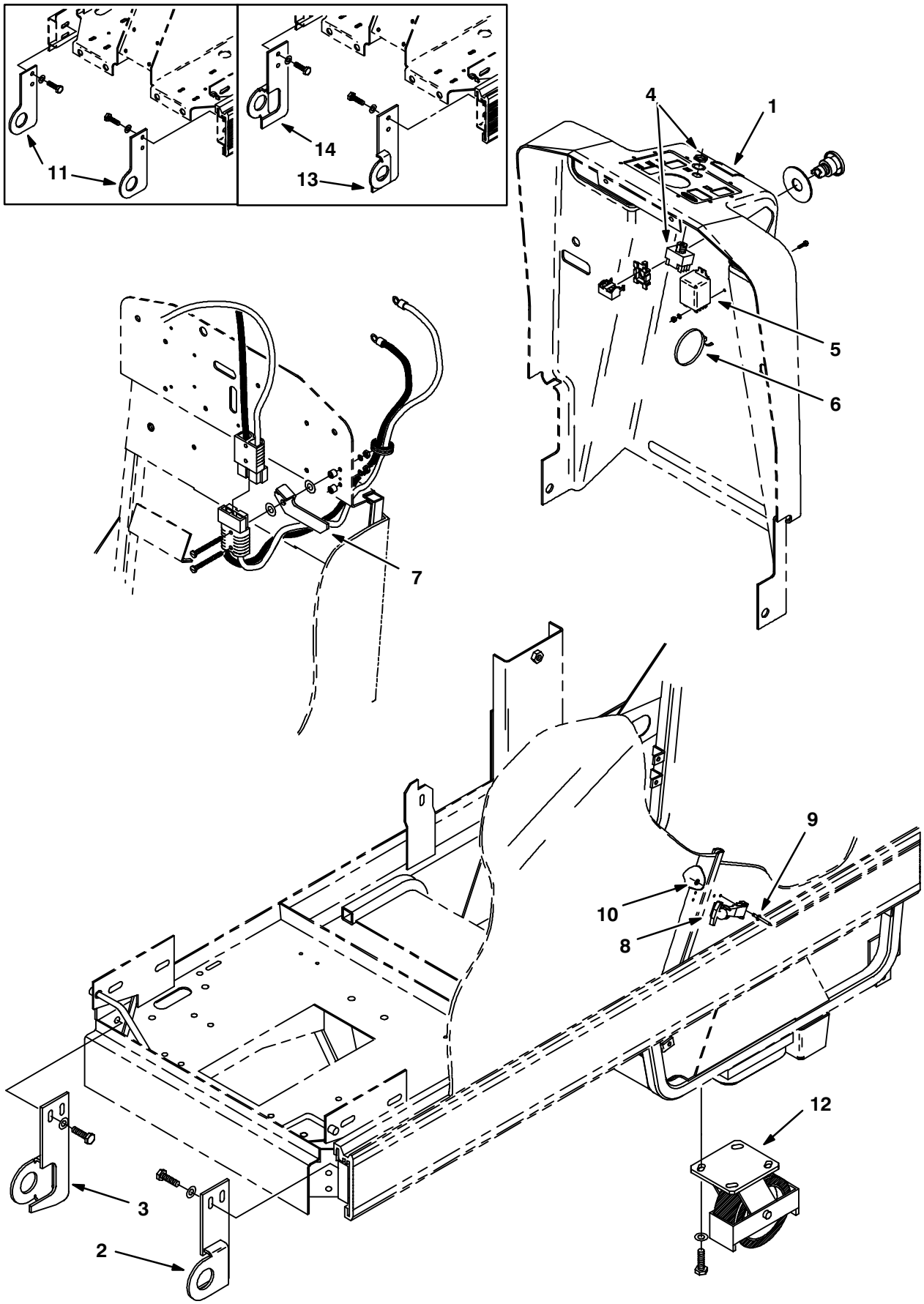


06158/04217

Fig. 21 – GS Group, 465

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	33444	(010000–	)	Label, For Safety, GS	1
	2	33530	(010962–	)	Plate, Cover Mount, L.H.	1
	3	33531	(010962–	)	Plate, Cover Mount, R.H.	1
∇	4	11651	(010000–	)	Switch Assembly, Key	1
▲		31204	(010000–	)	Key, Switch	1
	5	87284	(010000–	)	Relay, DPDT	1
	6	49266	(010000–	)	Tie, Cable	2
	7	11610	(010000–	)	Bracket, Hood	1
	8	11636	(010000–	)	Latch, Flexible Draw	2
	9	08875	(010000–	)	Rivet, Pop	8
	10	02892	(010000–	)	Washer	8
	11	33497	(010000–010559	)	Bracket Kit, Tie Down	1
	12	24853	(010000–	)	Caster, Protection, GS	2
	13	28356	(010560–010961	)	Plate, Tie Down, L.H.	1
	14	28357	(010560–010961	)	Plate, Tie Down, R.H.	1

Fig. 22 – GS Group, 480

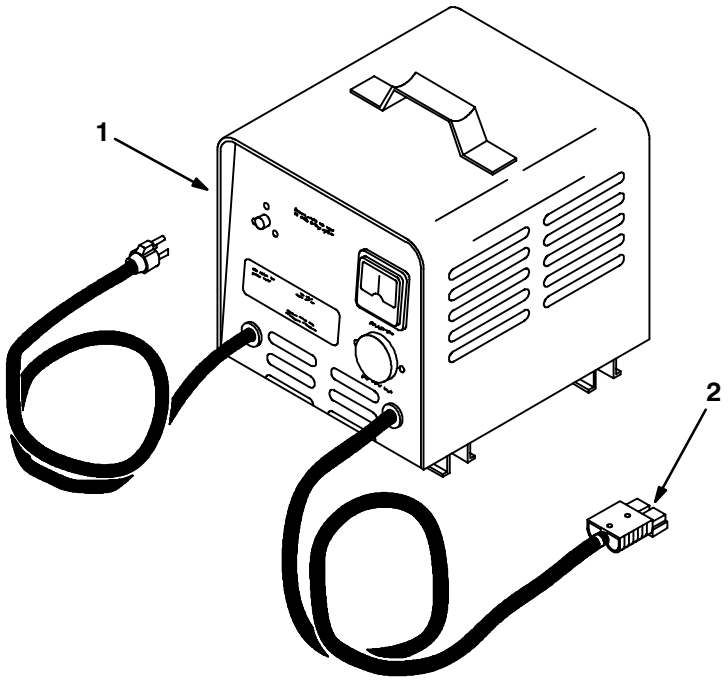


06159/04217

Fig. 22 – GS Group, 480

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
	1	33444	(020000–	)	Label, For Safety, GS	1
	2	33530	(021046–	)	Plate, Cover Mount, L.H.	1
	3	33531	(021046–	)	Plate, Cover Mount, R.H.	1
∇	4	11651	(020000–	)	Switch Assembly, Key	1
▲		31204	(020000–	)	Key, Switch	1
	5	87284	(020000–	)	Relay, DPDT	1
	6	49266	(020000–	)	Tie, Cable	2
	7	11610	(020000–	)	Bracket, Hood	1
	8	11636	(020000–	)	Latch, Flexible Draw	2
	9	08875	(020000–	)	Rivet, Pop	8
	10	02892	(020000–	)	Washer	8
	11	33497	(020000–020585	)	Bracket Kit, Tie Down	1
	12	24853	(020000–	)	Caster, Protection, GS	2
	13	28356	(020586–021045	)	Plate, Tie Down, L.H.	1
	14	28357	(020586–021045	)	Plate, Tie Down, R.H.	1

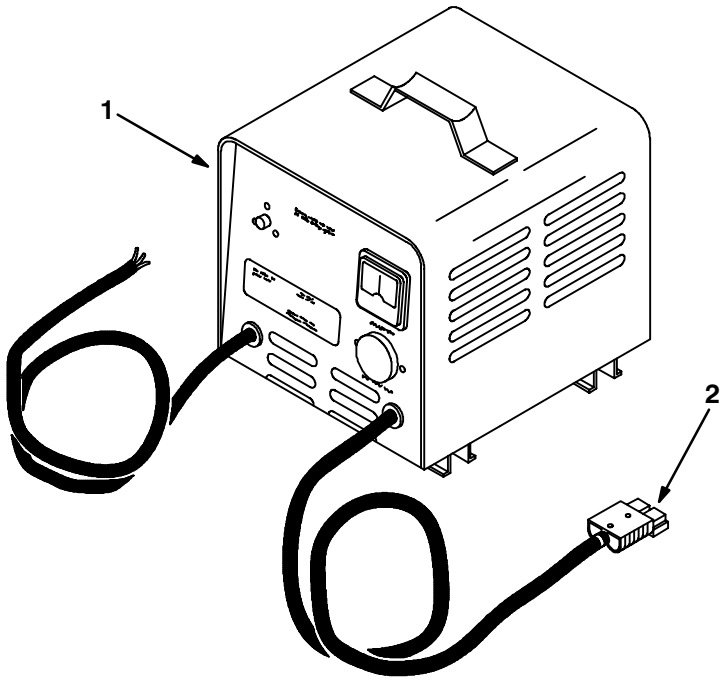
Fig. 23 – Battery Charger Group, 60 Hz (220 Ah batteries)



04766/04766

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	05263	(000000–xxxxxx	)	Charger, Battery, 36V, 25A, 115V (Replaced By 65570)	1
▲	2	24881	(000000–xxxxxx	)	Connector, Grey, SB50	1
▲		05264	(000000–xxxxxx	)	Ammeter	1
▲		05265	(000000–xxxxxx	)	Capacitor	1
▲		05266	(000000–xxxxxx	)	Fuse Assembly	1
▲		28009	(000000–xxxxxx	)	Diode Assembly	1

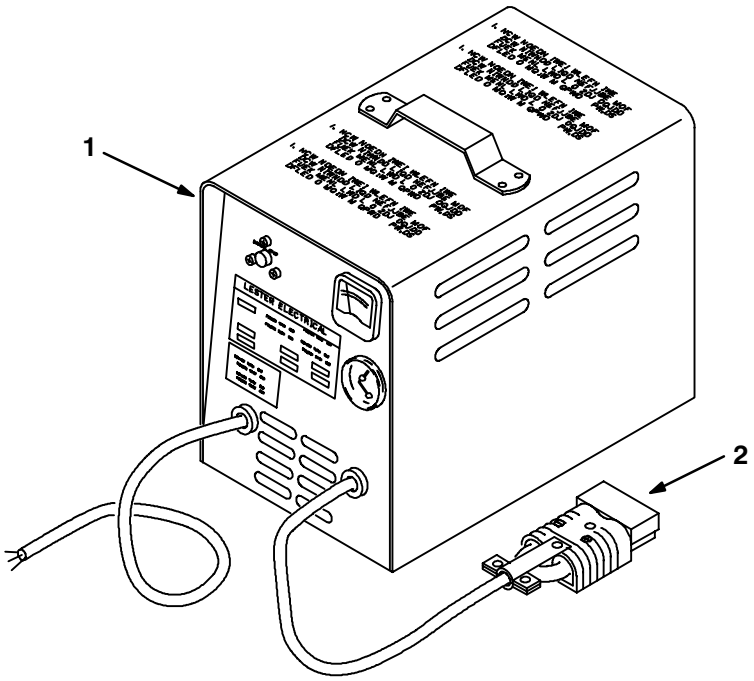
Fig. 24 – Battery Charger Group, 50 Hz (220 Ah batteries)



04767/04767

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	05247	(000000–xxxxxx	)	Charger, Battery, 36V, 25A, 230V (Replaced By 65572)	1
▲	2	24881	(000000–xxxxxx	)	Connector, Grey, SB50	1
▲		05264	(000000–xxxxxx	)	Ammeter	1
▲		05265	(000000–xxxxxx	)	Capacitor	1
▲		05266	(000000–xxxxxx	)	Fuse Assembly	1
▲		28009	(000000–xxxxxx	)	Diode Assembly	1

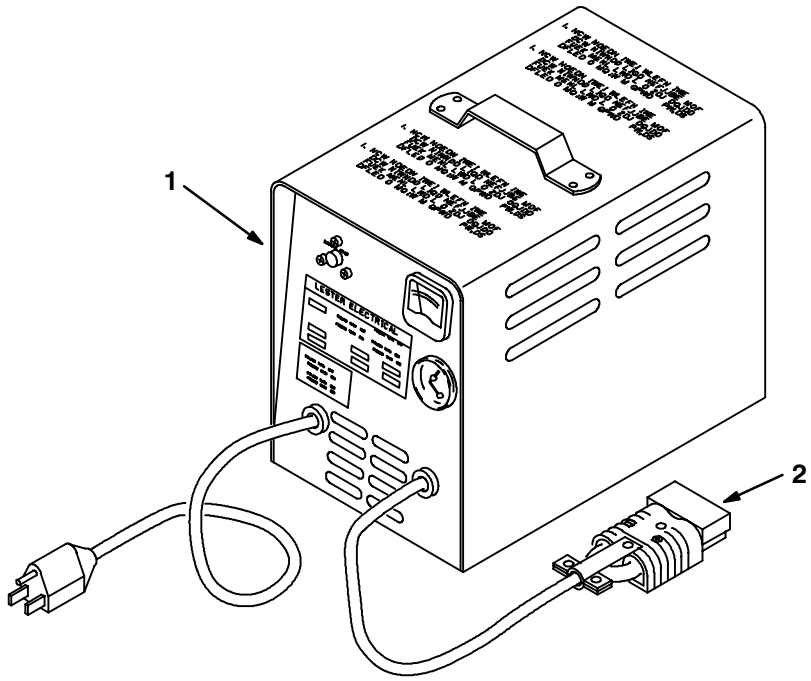
Fig. 25 – Battery Charger Group, 40A, 36V, 50 Hz (305 Ah batteries)



03569/03569

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	87834	(000000–xxxxxx	)	Charger, Battery, 40A, 36V, 50 Hz (Replaced By 65573)	1
▲	2	22892	(000000–xxxxxx	)	Connector, Grey, SB175	1
▲		87994	(000000–xxxxxx	)	Ammeter	1
▲		87995	(000000–xxxxxx	)	Capacitor	1
▲		87996	(000000–xxxxxx	)	Fuse Assembly	1
▲		87997	(000000–xxxxxx	)	Heatsink Assembly	1
▲		87999	(000000–xxxxxx	)	Timer Kit, Electric	1

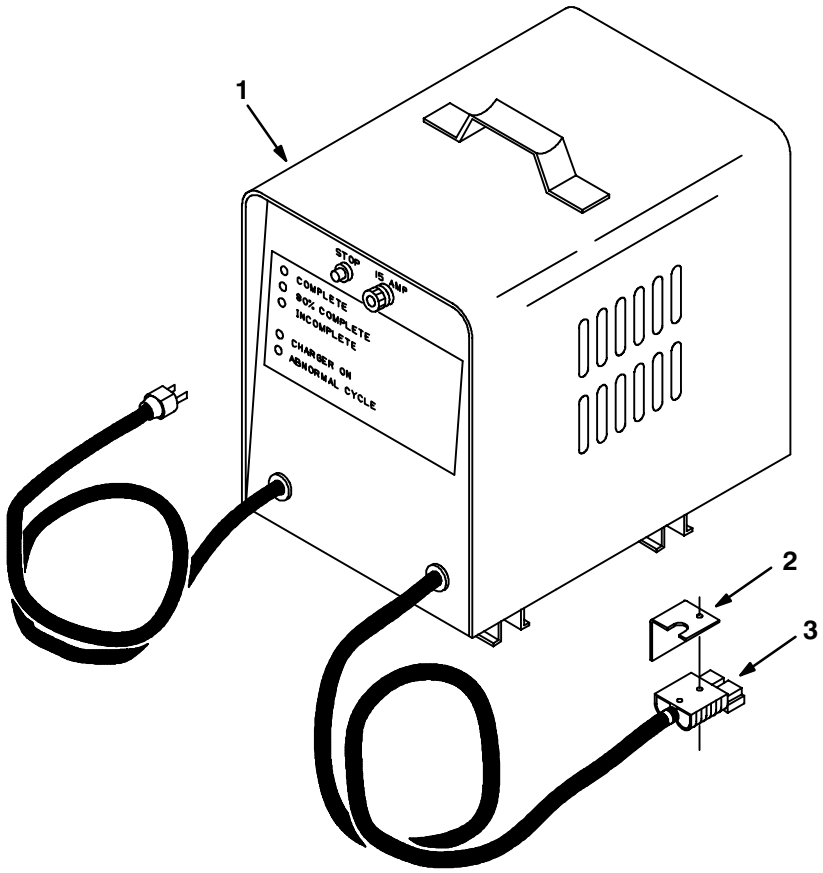
Fig. 26 – Battery Charger Group, 36A, 36V, 115V (305 Ah batteries)



03360/03360

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	87028	(000000–	)	Charger, Battery, 36A, 36V, 115V	1
▲	2	22892	(000000–	)	Connector, Grey, SB175	1
▲		87994	(000000–	)	Ammeter	1
▲		87995	(000000–	)	Capacitor	1
▲		87996	(000000–	)	Fuse Assembly	1
▲		87997	(000000–	)	Heatsink Assembly	1
▲		87998	(000000–	)	Timer Kit, Electric	1

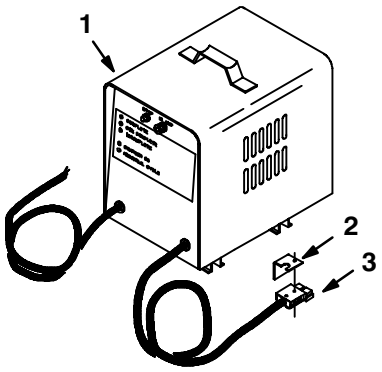
Fig. 27 – Battery Charger Group, 60 Hz (220 Ah batteries)



08079/08080

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	65570	(xxxxxx–	)	Charger, 20A, 60Hz	1
▲	2	10969	(xxxxxx–	)	Bracket, Charger	1
▲	3	24881	(xxxxxx–	)	Connector, Grey, SB50	1
▲		30059	(xxxxxx–	)	Fuse	1
▲		65638	(xxxxxx–	)	Capacitor	1
▲		65954	(xxxxxx–	)	Circuit Breaker	1
▲		65629	(xxxxxx–	)	Control Circuit	1
▲		65621	(xxxxxx–	)	Power Transformer	1
▲		61837	(xxxxxx–	)	Rectifier	1
▲		65626	(xxxxxx–	)	Control Circuit Tx2	1
▲		30058	(xxxxxx–	)	Fuse Holder	1
▲		49811	(xxxxxx–	)	Triac, Charger	1

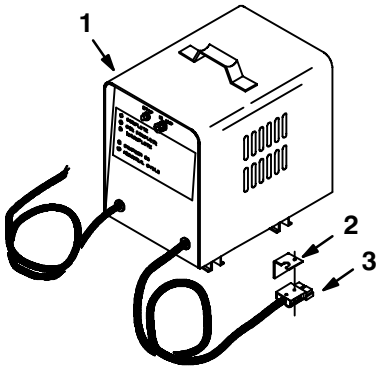
Fig. 28 – Battery Charger Group, 50 Hz, 230V (220 Ah batteries)



08081/08082

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	65572	(xxxxxx–	)	Charger, 20A, 50Hz, 230V	1
▲	2	10969	(xxxxxx–	)	Bracket, Charger	1
▲	3	24881	(xxxxxx–	)	Connector, Grey, SB50	1
▲		65958	(xxxxxx–	)	Condenser	1
▲		65632	(xxxxxx–	)	A.C. Fuse 10Amp	1
▲		30058	(xxxxxx–	)	Fuse Holder	1
▲		61837	(xxxxxx–	)	Rectifier Assembly	1
▲		65959	(xxxxxx–	)	Control Transformer	1
▲		65634	(xxxxxx–	)	Transformer	1
▲		65954	(xxxxxx–	)	Circuit Breaker	1
▲		65620	(xxxxxx–	)	Charger Control Assembly	1

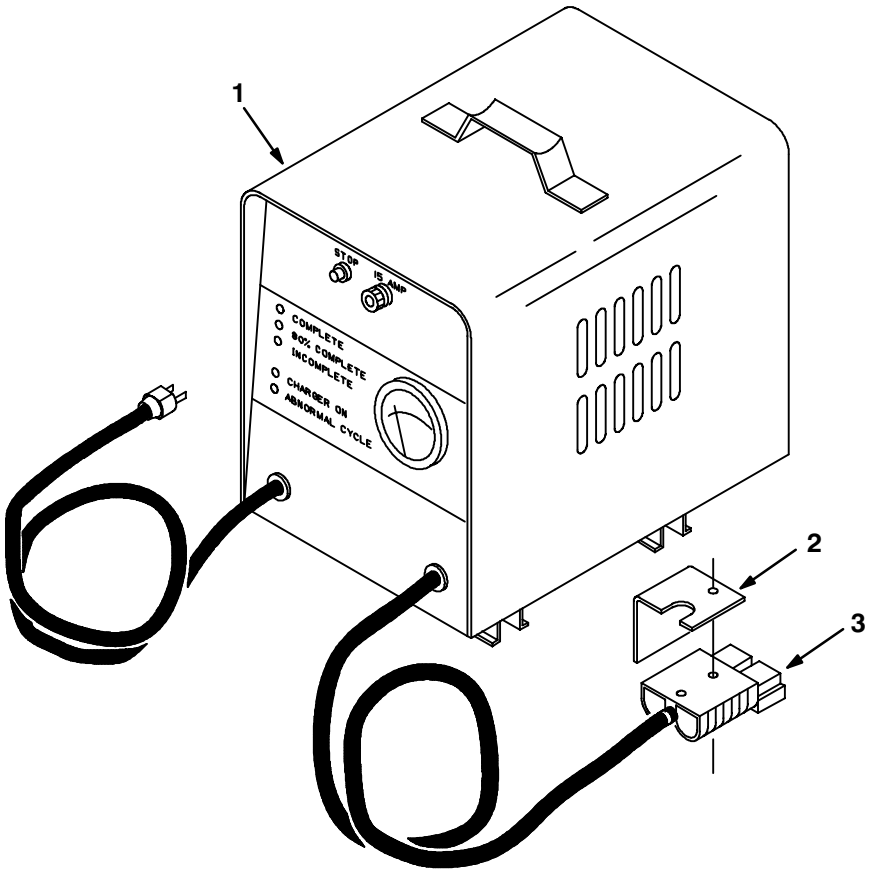
Fig. 29 – Battery Charger Group, 50 Hz, 245V (220 Ah batteries)



10179/08082

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	78550	(xxxxxx–	)	Charger, 20A, 50Hz, 245V	1
▲	2	10969	(xxxxxx–	)	Bracket, Charger	1
▲	3	24881	(xxxxxx–	)	Connector, Grey, SB50	1
▲		65958	(xxxxxx–	)	Condenser	1
▲		65632	(xxxxxx–	)	A.C. Fuse 10Amp	1
▲		30058	(xxxxxx–	)	Fuse Holder	1
▲		61837	(xxxxxx–	)	Rectifier Assembly	1
▲		65959	(xxxxxx–	)	Control Transformer	1
▲		65724	(xxxxxx–	)	Power Tran	1
▲		65954	(xxxxxx–	)	Circuit Breaker	1
▲		65620	(xxxxxx–	)	Charger Control Assembly	1

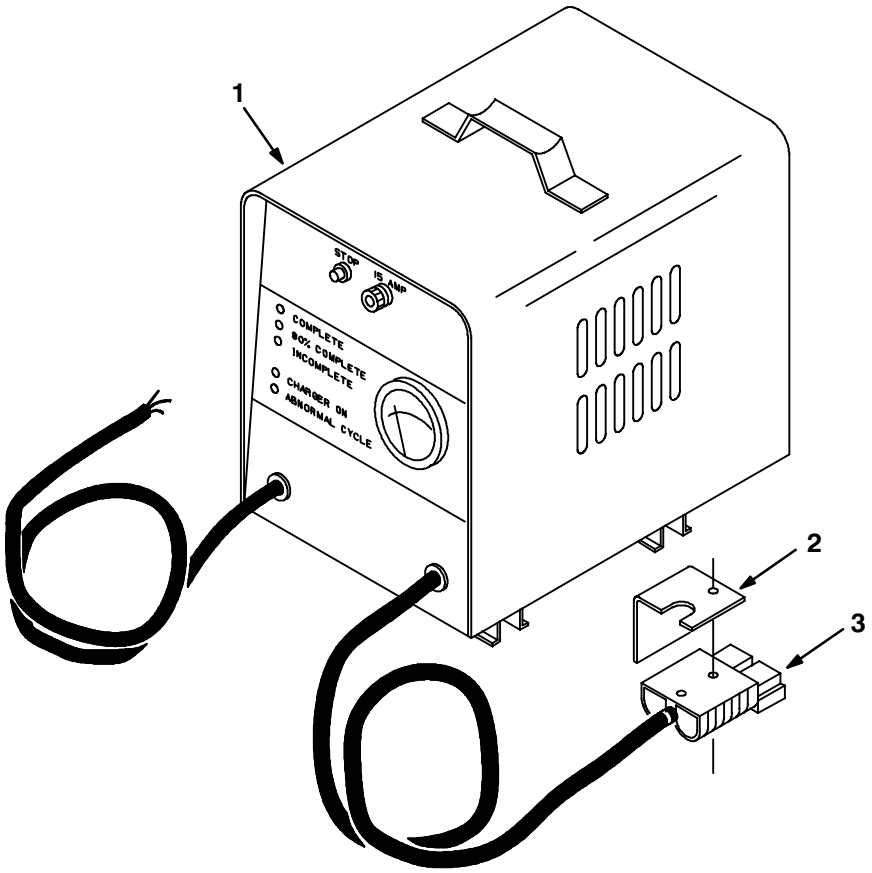
Fig. 30 – Battery Charger Group, 60 Hz (305 Ah batteries)



08083/08084

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	65571	(xxxxxx–	)	Charger, 30A, 60Hz	1
▲	2	65568	(xxxxxx–	)	Bracket, Charger	1
▲	3	22892	(xxxxxx–	)	Connector, Grey, SB175	1
▲		38889	(xxxxxx–	)	Ammeter	1
▲		30059	(xxxxxx–	)	A.C. Fuse	1
▲		30058	(xxxxxx–	)	Fuse Holder	1
▲		65613	(xxxxxx–	)	Condensor, 12.5 mfd	1
▲		65619	(xxxxxx–	)	Circuit Breaker	1
▲		65629	(xxxxxx–	)	Control Circuit	1
▲		65626	(xxxxxx–	)	Control Circuit Tx2	1
▲		65628	(xxxxxx–	)	Power Transformer	1
▲		49811	(xxxxxx–	)	Triac, Charger	1
▲		65630	(xxxxxx–	)	Varistor	1

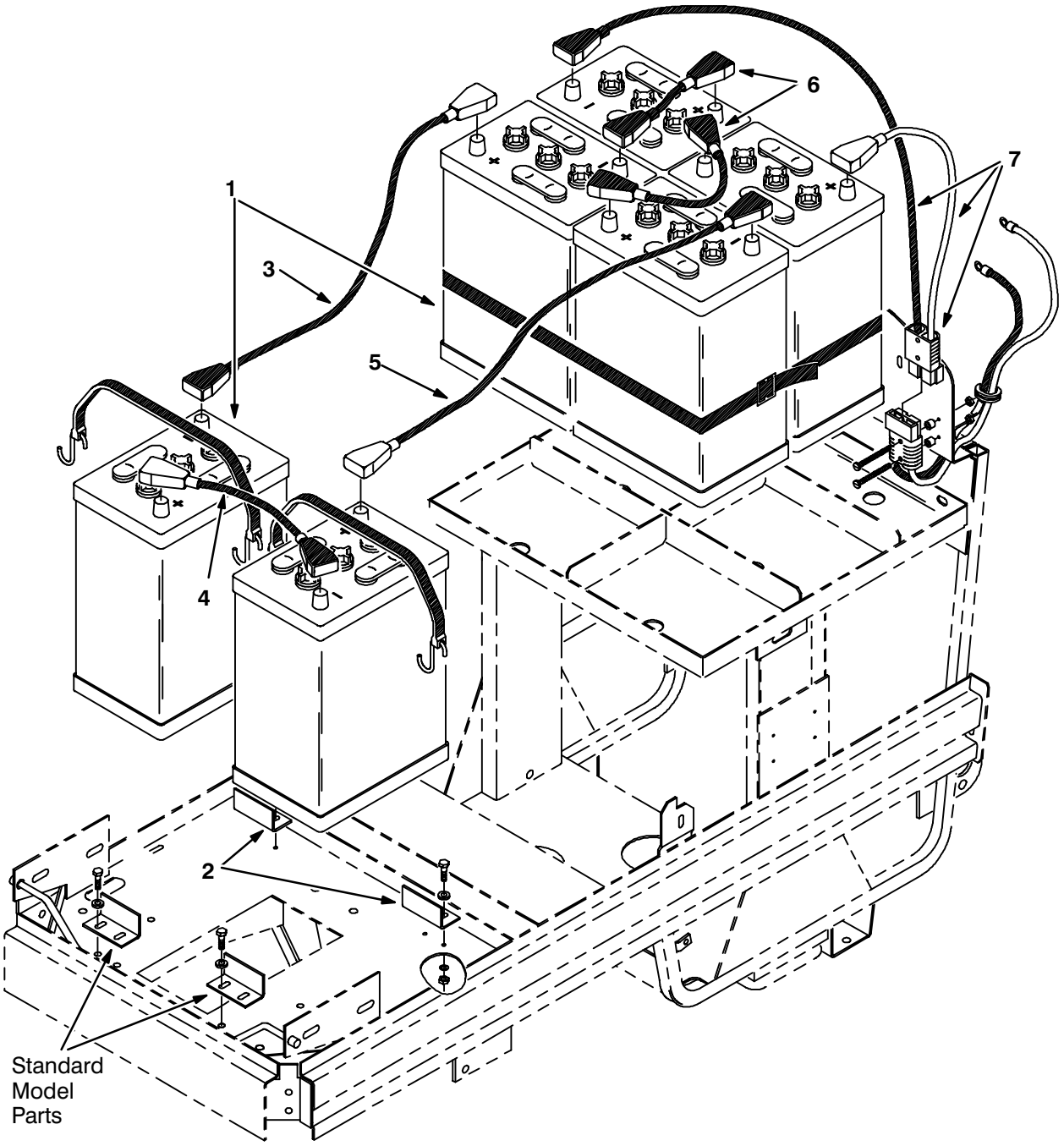
Fig. 31 – Battery Charger Group, 50 Hz (305 Ah batteries)



08085/08086

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇	1	65573	(xxxxxx–	)	Charger, 30A, 50Hz	1
▲	2	65568	(xxxxxx–	)	Bracket, Charger	1
▲	3	22892	(xxxxxx–	)	Connector, Grey, SB175	1
▲		38889	(xxxxxx–	)	Ammeter	1
▲		65613	(xxxxxx–	)	Condenser 12.5Mfd	1
▲		65614	(xxxxxx–	)	A.C. Fuse 15Amp	1
▲		30058	(xxxxxx–	)	Fuse Holder	1
▲		65616	(xxxxxx–	)	Diode	1
▲		65959	(xxxxxx–	)	Control Transformer	1
▲		65618	(xxxxxx–	)	Transformer	1
▲		65619	(xxxxxx–	)	Circuit Breaker	1
▲		65620	(xxxxxx–	)	Charger Control Assembly	1

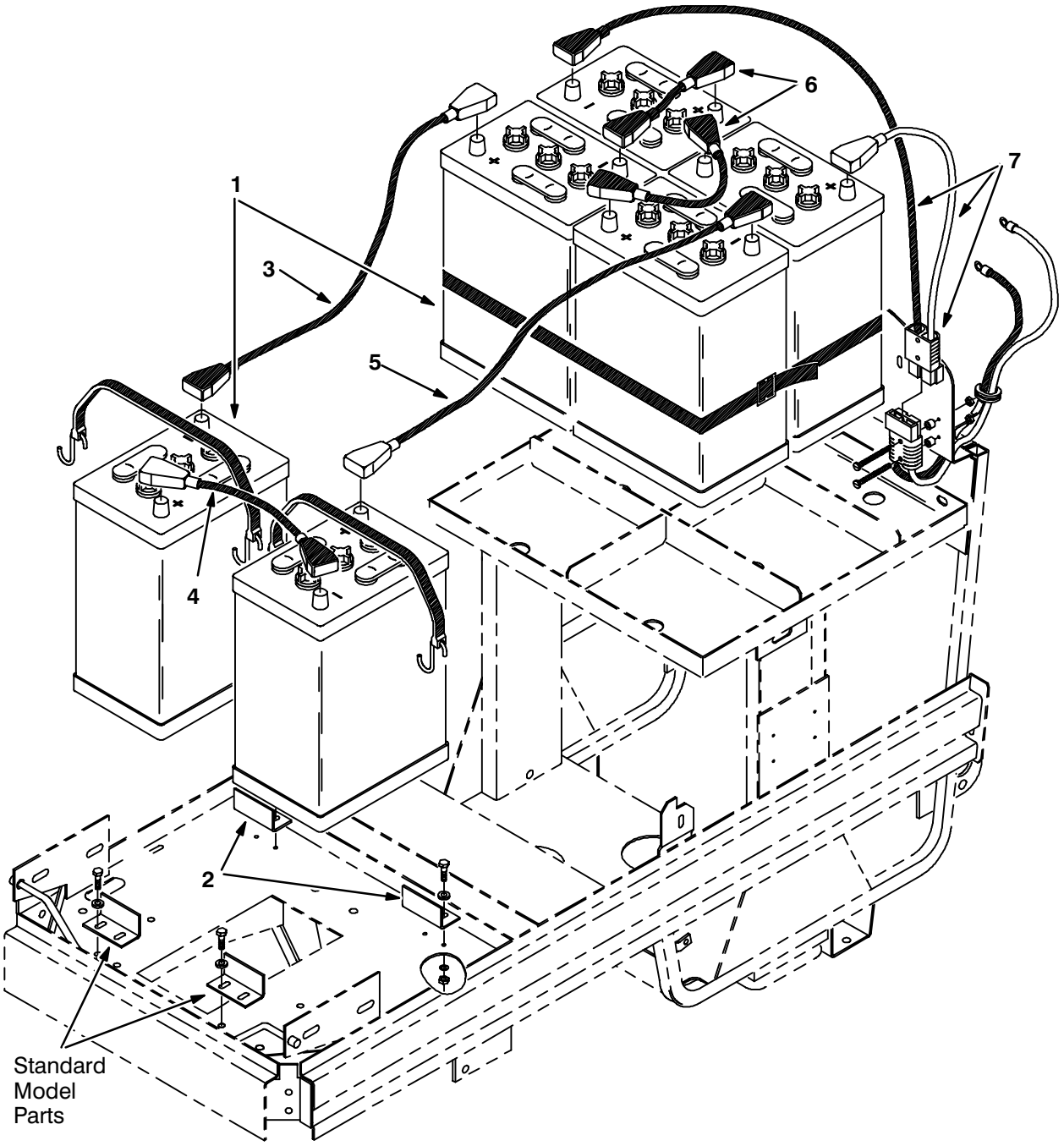
Fig. 32 – Heavy Duty Battery Kit, Wet, 480



05094/04210

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		05652	(000000–	)	Battery Kit, 36 V, 305 Ah, Wet	1
▲	1	10138	(000000–	)	Battery, 6 V, Wet	6
▲	2	24843	(000000–	)	Angle, Battery Stop	2
▲	3	63757	(000000–	)	Cable, Battery	1
▲	4	05251	(000000–	)	Cable, Battery	1
▲	5	05252	(000000–	)	Cable, Battery	1
▲	6	63755	(000000–	)	Cable, Battery	2
▲	7	05671	(000000–	)	Cable, Battery	1

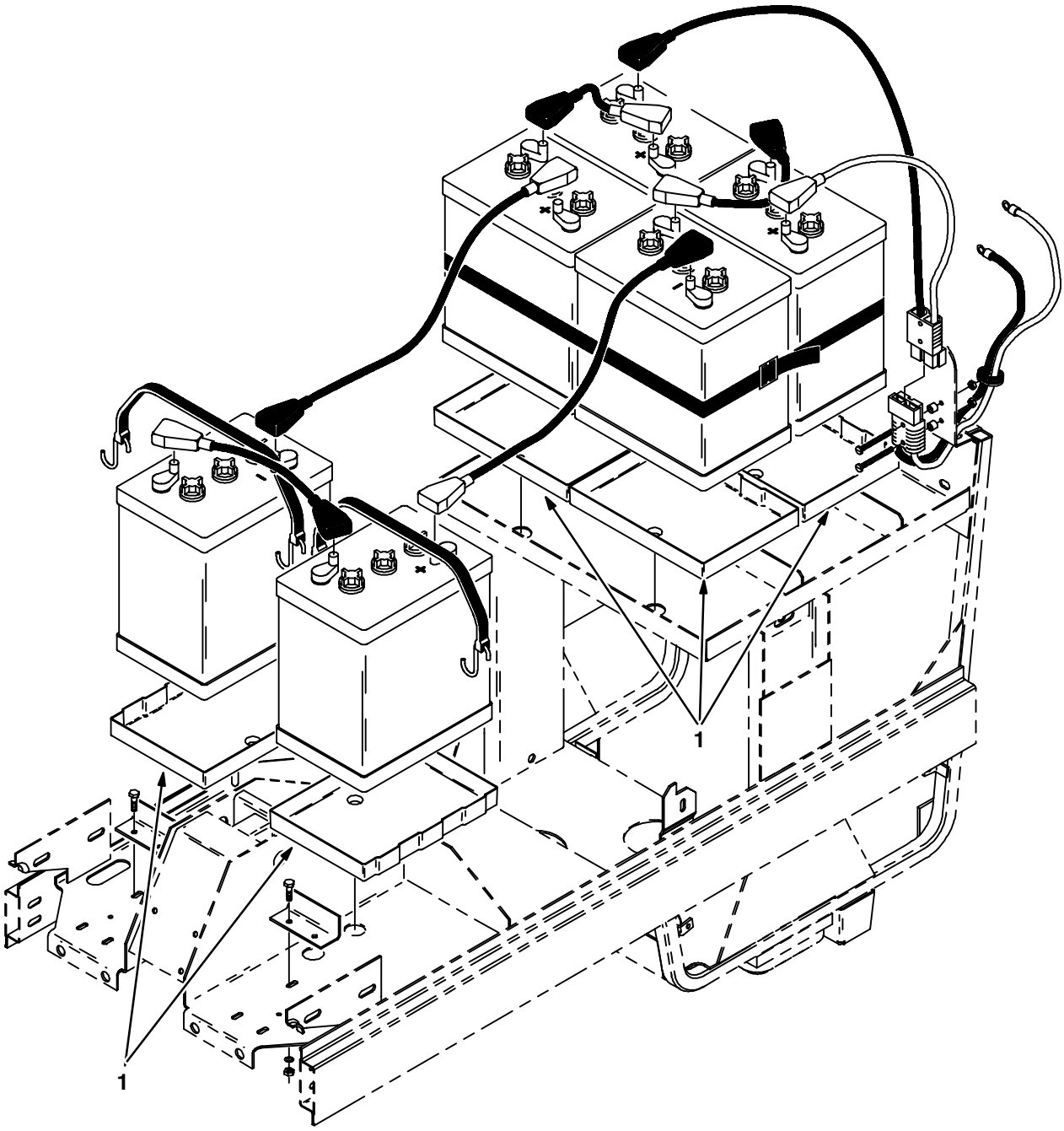
Fig. 33 – Heavy Duty Battery Kit, Dry, 480



05095/04210

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		11568	(000000–	)	Battery Kit, 36 V, 305 Ah, Dry	1
▲	1	10140	(000000–	)	Battery, 6 V, Dry (International Only)	6
▲	2	24843	(000000–	)	Angle, Battery Stop	2
▲	3	63757	(000000–	)	Cable, Battery	1
▲	4	05251	(000000–	)	Cable, Battery	1
▲	5	05252	(000000–	)	Cable, Battery	1
▲	6	63755	(000000–	)	Cable, Battery	2
▲	7	05671	(000000–	)	Cable, Battery	1

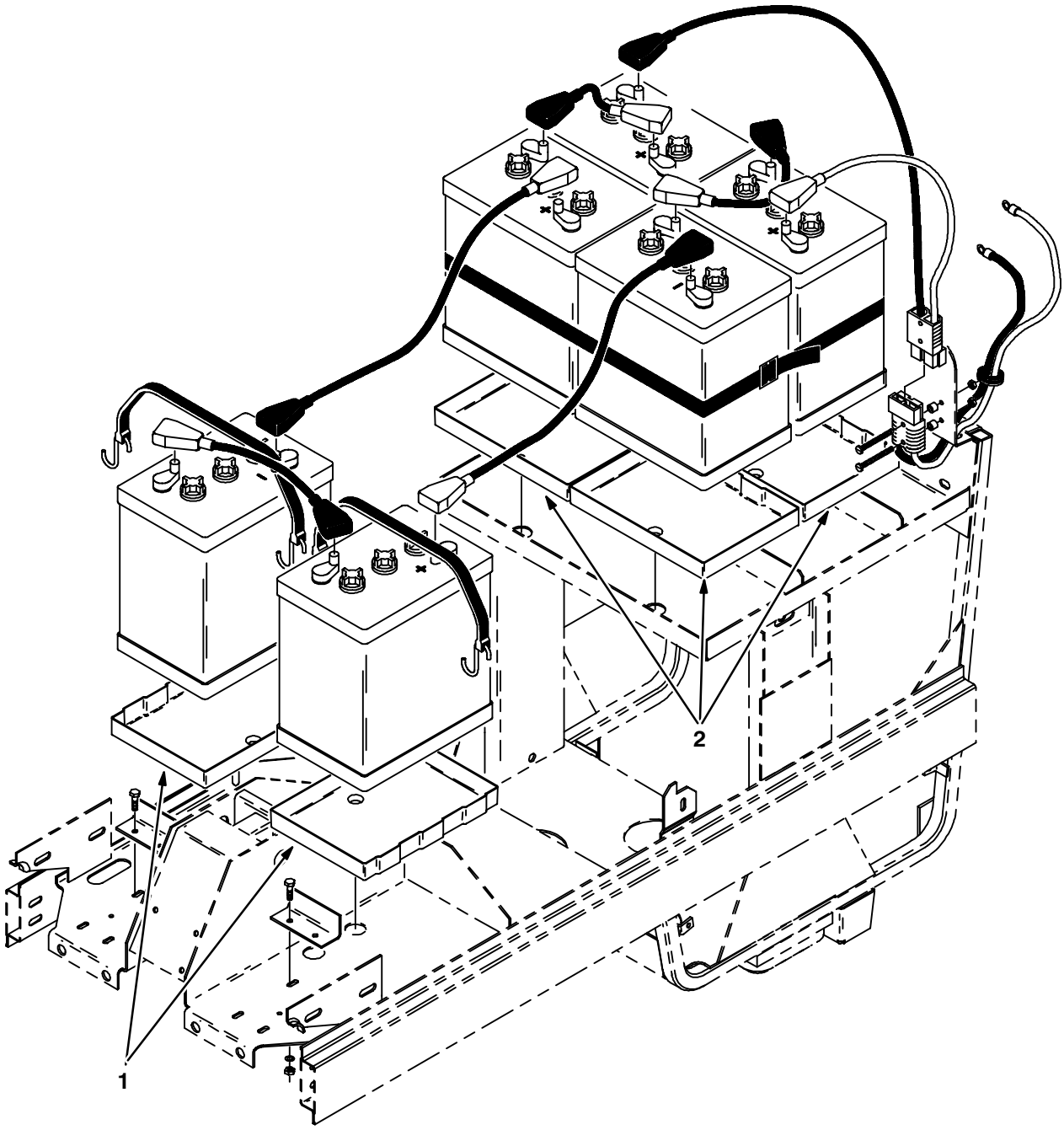
Fig. 34 – Battery Tray Group, 465



05381/04769

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04900	(000000–)	Liner, Tray Battery	6

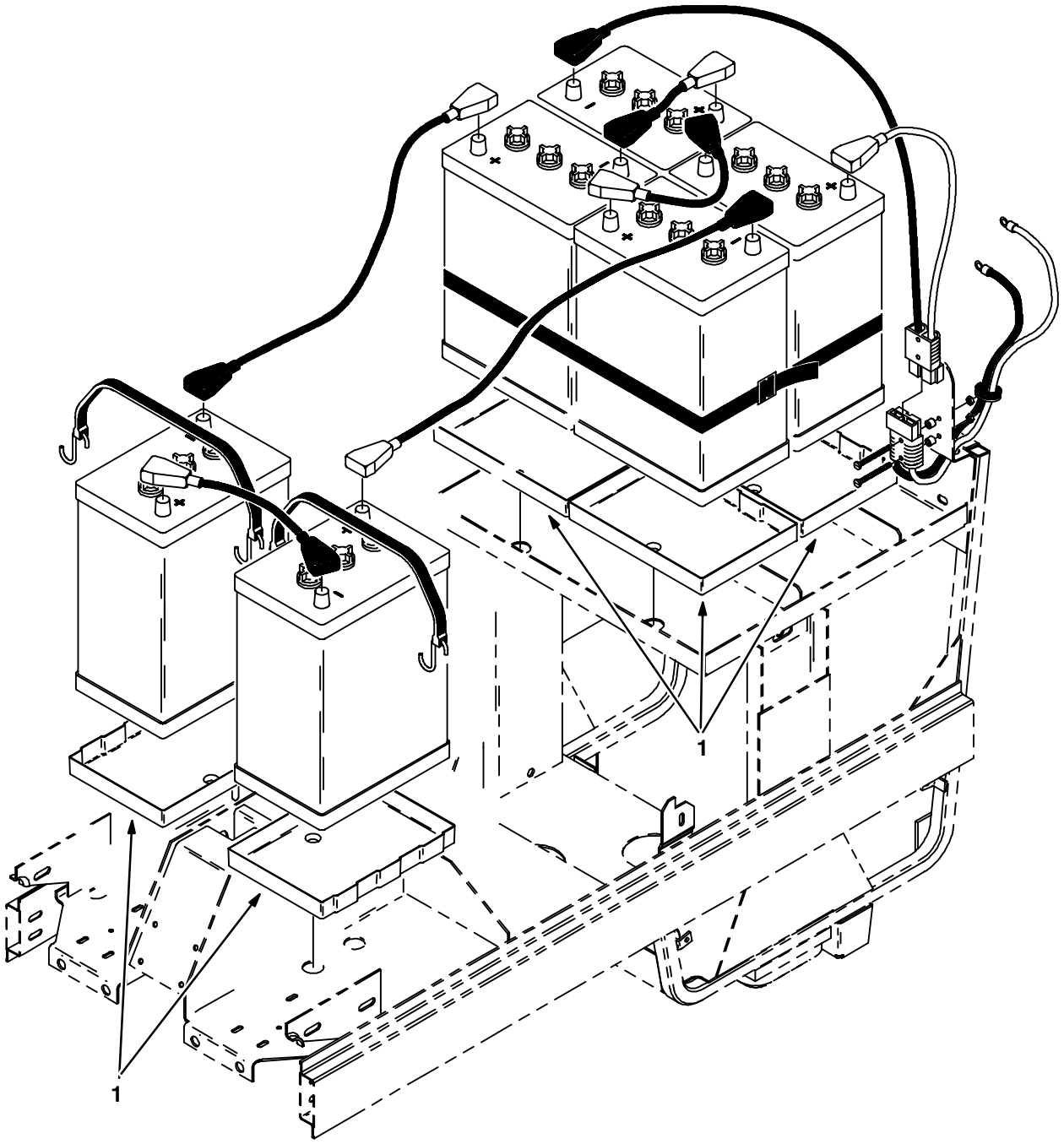
Fig. 35 – Battery Tray Group, 480, 490



05383/04769

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04900	(000000–)	Liner, Tray Battery	2
2	04899	(000000–)	Liner, Tray Battery	4

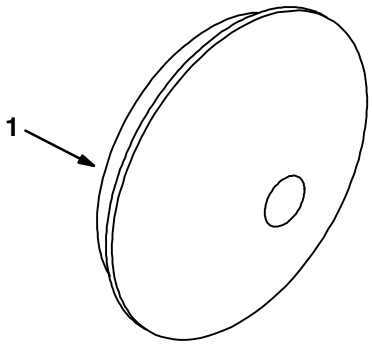
Fig. 36 – Heavy Duty Battery Tray Group, 480, 490



05412/05371

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	04899	(000000–)	Liner, Tray Battery	6

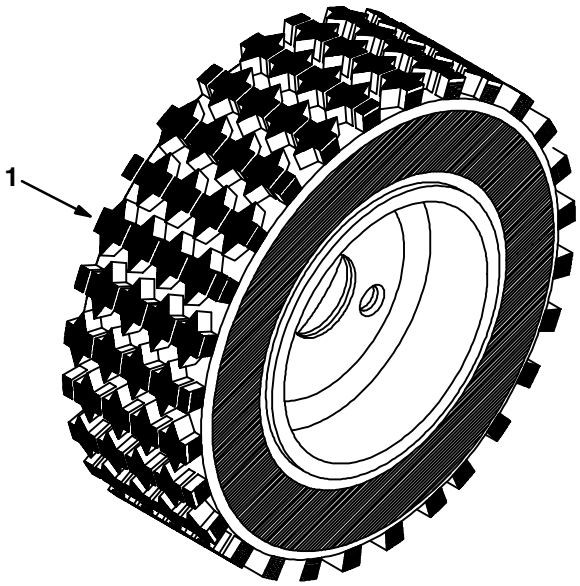
Fig. 37 – Wheel Cover Group



05380/05380

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	11581	(000000–)	Cover, Wheel	2

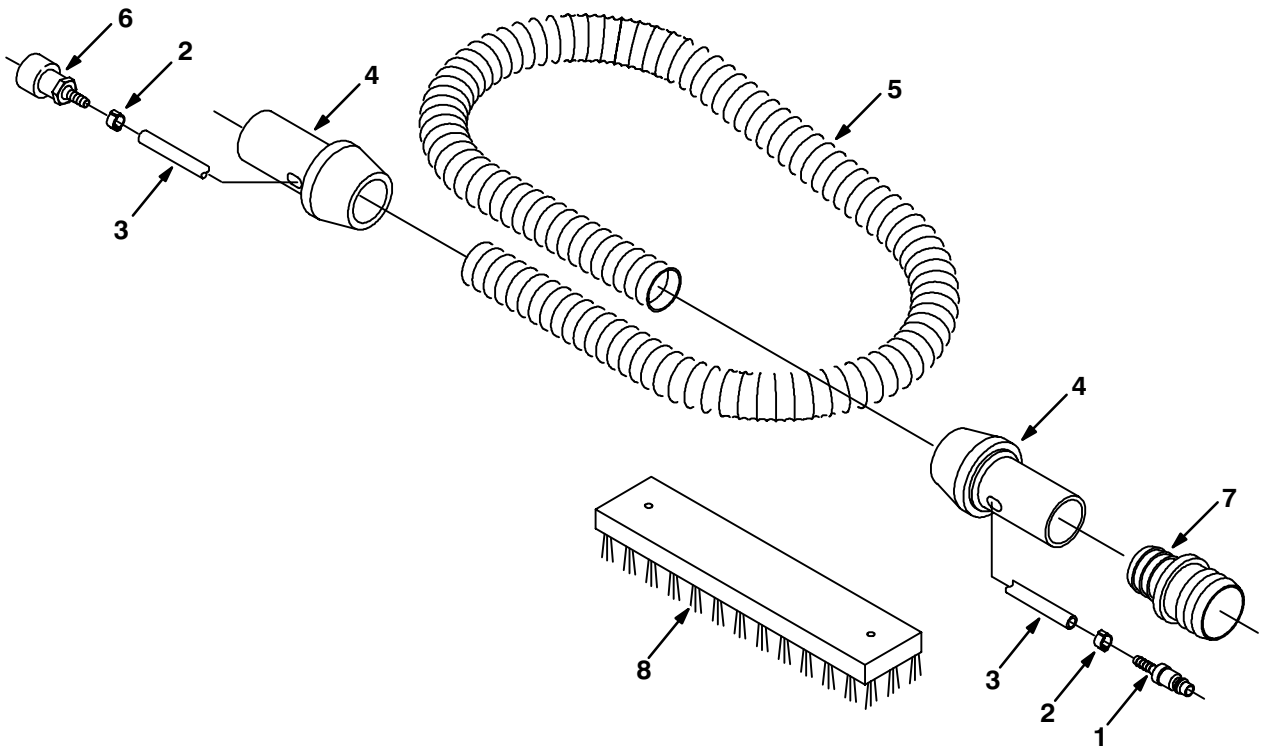
Fig. 38 – Foam Filled Tire Group



04765/04765

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	61598	(000000–)	Tire and Rim Assembly, Foam Filled	2

Fig. 39 – Power Wand Hose Assembly

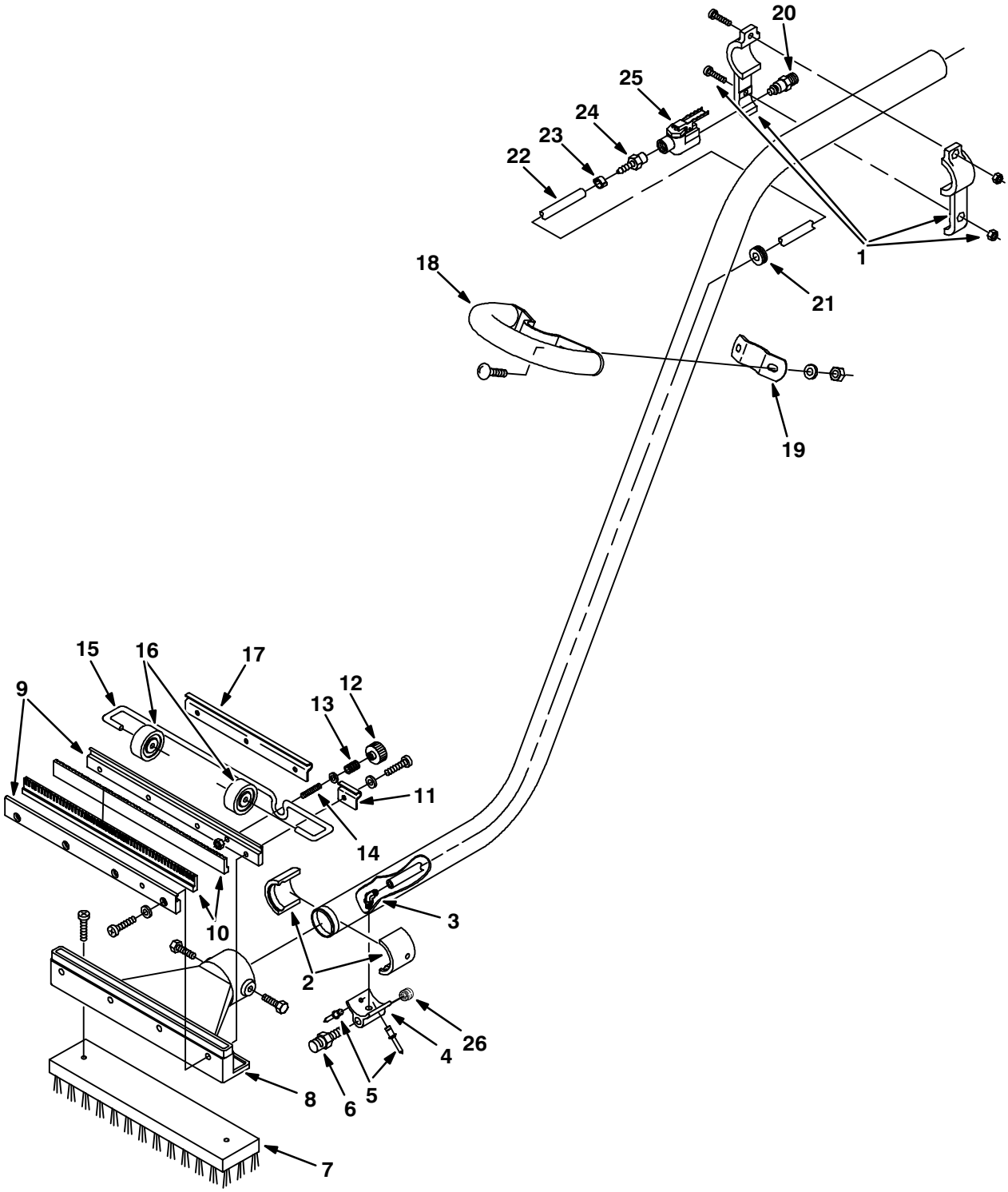


08073/08042

NOTE: Power Wand Kit, TENNANT Part Number 65578, includes Fig. 39, Fig. 40, Fig. 41, and Fig. 42.

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		65341	(000000–	)	Hose Assembly	1
▲	1	578318	(000000–	)	Fitting, Quick Disconnect	1
▲	2	578160	(000000–	)	Clamp, Hose	2
▲	3	578820	(000000–	)	Hose	1
▲	4	578072	(000000–	)	Cuff, Swivel	2
▲	5	578276	(000000–	)	Hose, Vacuum	1
▲	6	578071	(000000–	)	Fitting, Quick Disconnect	1
	7	12694	(000000–	)	Fitting, Plastic	1
	8	65582	(000000–	)	Brush, Wand AB	1

Fig. 40 – Power Wand Assembly



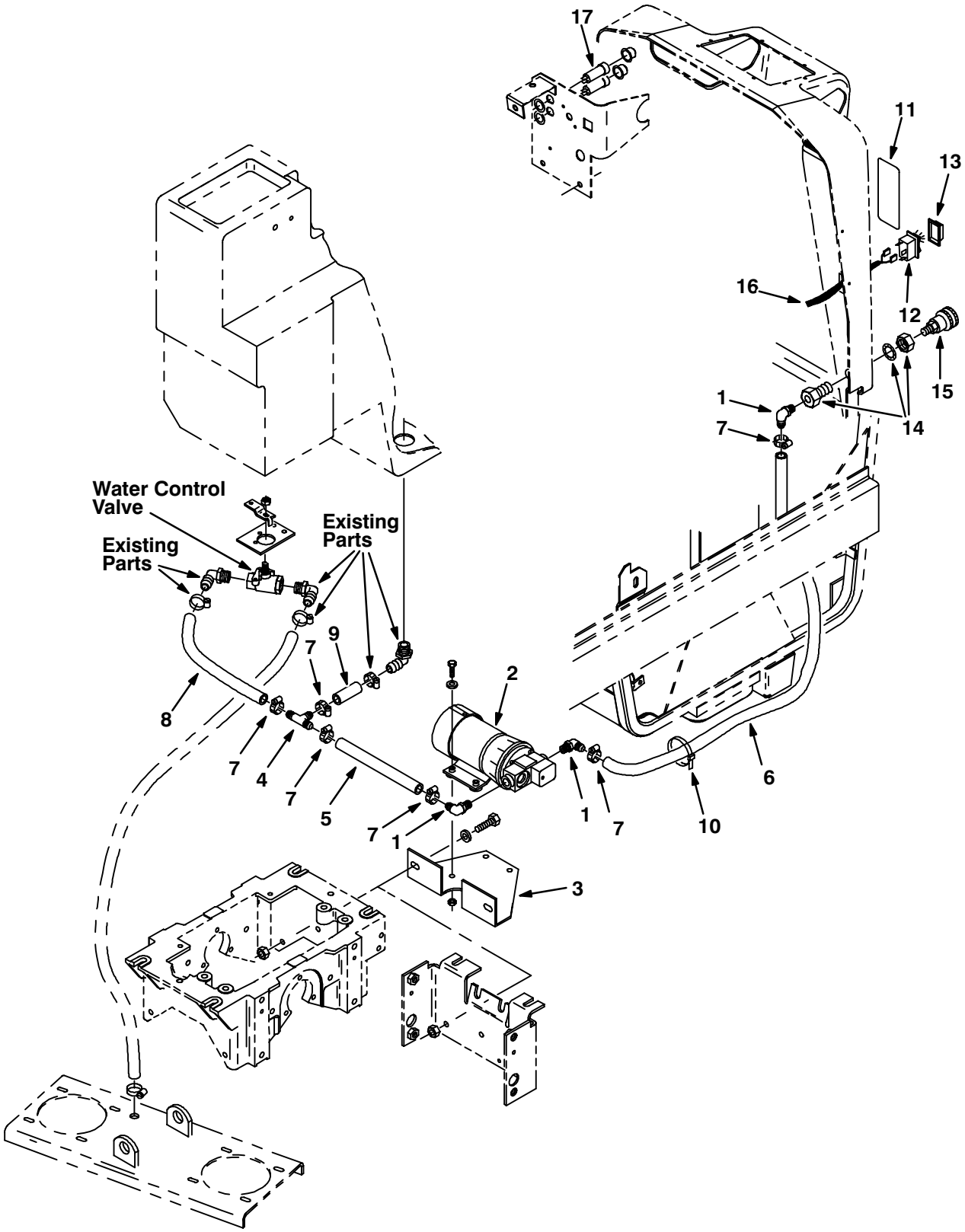
08931/06459

Fig. 40 – Power Wand Assembly

NOTE: Power Wand Kit, TENNANT Part Number 65578, includes Fig. 39, Fig. 40, Fig. 41, and Fig. 42.

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		65340	(000000–	)	Wand Assembly	1
▲	1	578077	(000000–	)	Bracket, Valve Mounting	1
▲	2	578061	(000000–	)	Adapter, Head	2
▲	3	578214	(000000–	)	Fitting, 90° Elbow	1
▲	4	579112	(000000–	)	Adapter, Nozzle	1
▲	5	579198	(000000–	)	Rivet, Pop	2
▲	6	578066	(000000–	)	Nozzle, Spray	1
▲	7	578073	(000000–	)	Brush, Wand, Nylon	1
▲	8	578063	(000000–	)	Head, Wand	1
▲	9	578078	(000000–	)	Strip, Retainer	2
▲	10	578074	(000000–	)	Blade, Squeegee	2
▲	11	578124	(000000–	)	Bracket, Axle	1
▲	12	578439	(000000–	)	Knob, Adjustable, Squeegee	1
▲	13	578228	(000000–	)	Spring, Compression	1
▲	14	578143	(000000–	)	Stud, Adjustable	1
▲	15	578126	(000000–	)	Axle, Wand	1
▲	16	578125	(000000–	)	Wheel, Guide	2
▲	17	578123	(000000–	)	Bracket, Axle	1
▲	18	578155	(000000–	)	Handle, Wand	1
▲	19	578154	(000000–	)	Bracket, Handle Mounting	1
▲	20	578091	(000000–	)	Fitting, Quick Disconnect	1
▲	21	578164	(000000–	)	Grommet	1
▲	22	578821	(000000–	)	Hose, Solution	1
▲	23	578161	(000000–	)	Clamp, Hose	2
▲	24	578094	(000000–	)	Fitting, Straight	1
▲	25	578064	(000000–	)	Valve, Water	1
▲	26	579148	(000000–	)	Fitting, Plug	1

Fig. 41 – Power Wand Pump and Electrical Group



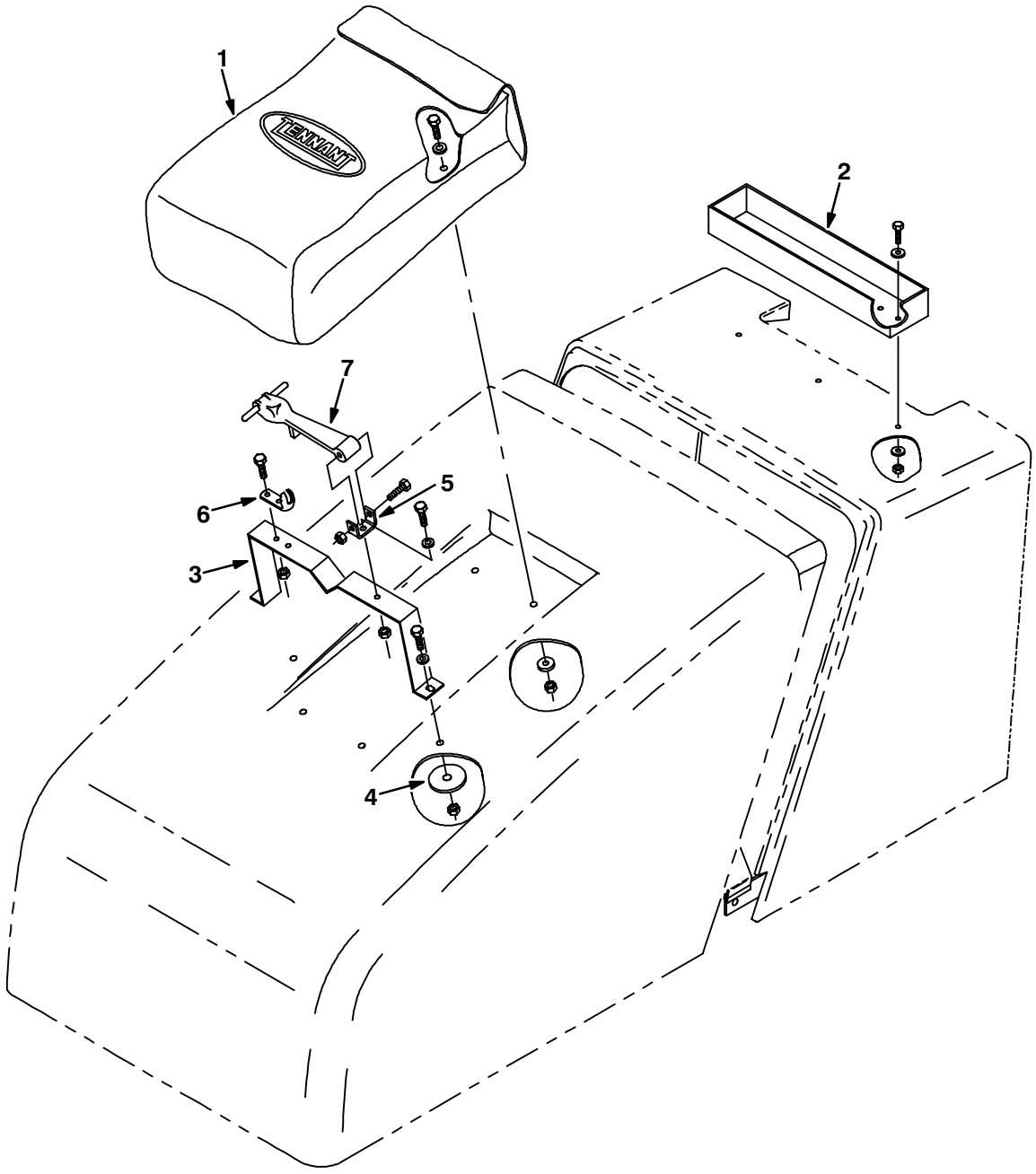
08074/07459

Fig. 41 – Power Wand Pump and Electrical Group

NOTE: Power Wand Kit, TENNANT Part Number 65578, includes Fig. 39, Fig. 40, Fig. 41, and Fig. 42.

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	65581	(000000–	)	Fitting, Barbed Elbow	3
2	65590	(000000–	)	Pump Assembly, Power Wand (See Breakdowns)	1
3	61211	(000000–	)	Plate, Pump Mount	1
4	63245–1	(000000–	)	Fitting, Barbed Tee	1
5	65607	(000000–	)	Hose (465)	1
5	65586	(000000–	)	Hose (480, 490)	1
6	65587	(000000–	)	Hose (465)	1
6	65588	(000000–	)	Hose (480, 490)	1
7	54333	(000000–	)	Clamp, Worm Drive	6
8	65591	(000000–	)	Hose	1
9	65592	(000000–	)	Hose	1
10	49266	(000000–	)	Tie, Cable	6
11	19800	(000000–	)	Label, Solution Control	1
12	65557	(000000–	)	Switch, Rocker SPST	1
13	57807	(000000–	)	Cover, Rocker Switch Seal	1
14	78122	(000000–	)	Fitting, Bulkhead	1
15	65342	(000000–	)	Fitting, Quick Disconnect, Female	1
16	61214	(000000–	)	Harness, Wire, Pump	1
17	87977	(000000–	)	Breaker, Circuit, 7A	1

Fig. 42 – Power Wand Mount Group



08075/07460

NOTE: Power Wand Kit, TENNANT Part Number 65578, includes Fig. 39, Fig. 40, Fig. 41, and Fig. 42.

Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
1	65580	(000000–	)	Bag, Power Wand	1
2	61212	(000000–	)	Tray, Wand	1
3	65599	(000000–	)	Bracket	1
4	63288	(000000–	)	Washer	2
5	40671	(000000–	)	Bracket, U	1
6	40670	(000000–	)	Catch, Rubber	1
7	75118	(000000–	)	Hook, Rubber	1

SECTION 11

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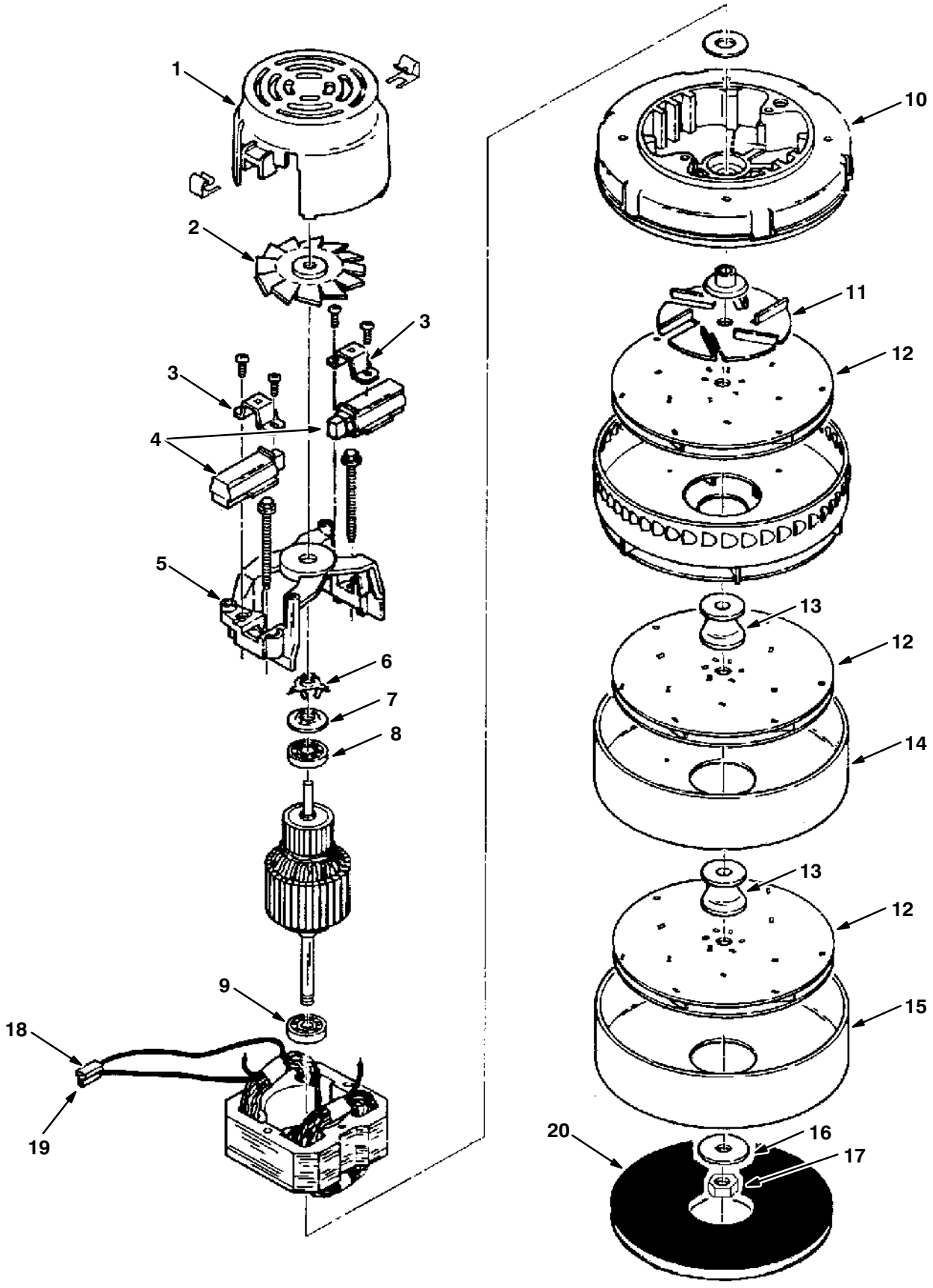
Fig. 1 – Electric Motor Breakdown, 10914

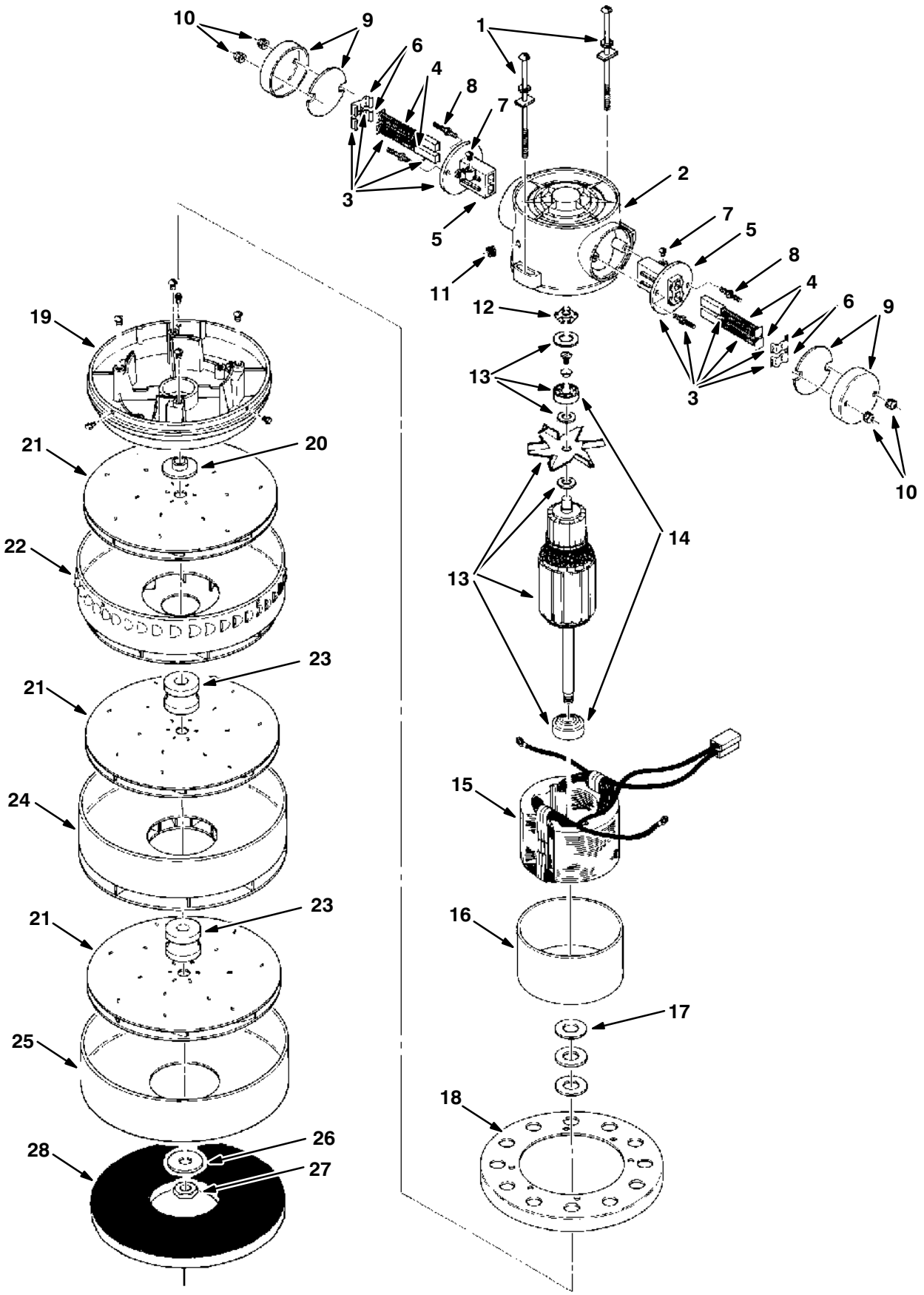


05206/06312

Fig. 1 – Electric Motor Breakdown, 10914

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		10914	(000000–	)	Motor, Electric	1
▲	1	37926	(000000–	)	Housing	1
▲	2	37923	(000000–	)	Fan	1
▲	3	01982	(000000–	)	Clamp	2
▲	4	11756	(000000–	)	Brush Assembly	2
▲	5	01983	(000000–	)	Bracket, Connector	1
▲	6	01856	(000000–	)	Spring	1
▲	7	37909	(000000–	)	Disc	1
▲	8	01842	(000000–	)	Bearing	1
▲	9	01837	(000000–	)	Bearing	1
▲	10	01970	(000000–	)	Bracket, Fan	1
▲	11	01971	(000000–	)	Fan	1
▲	12	18628	(000000–	)	Fan, Vacuum	3
▲	13	18630	(000000–	)	Spacer	2
▲	14	61297	(000000–	)	Fan, Stationary	1
▲	15	18631	(000000–	)	Shell, Fan	1
▲	16	18632	(000000–	)	Washer	1
▲	17	37929	(000000–	)	Nut	1
▲	18	10925	(000000–	)	Connector	1
▲	19	10926	(000000–	)	Terminal, Female	2
▲	20	10912	(000000–	)	Seal	1

Fig. 2 – Electric Motor Breakdown, 28386

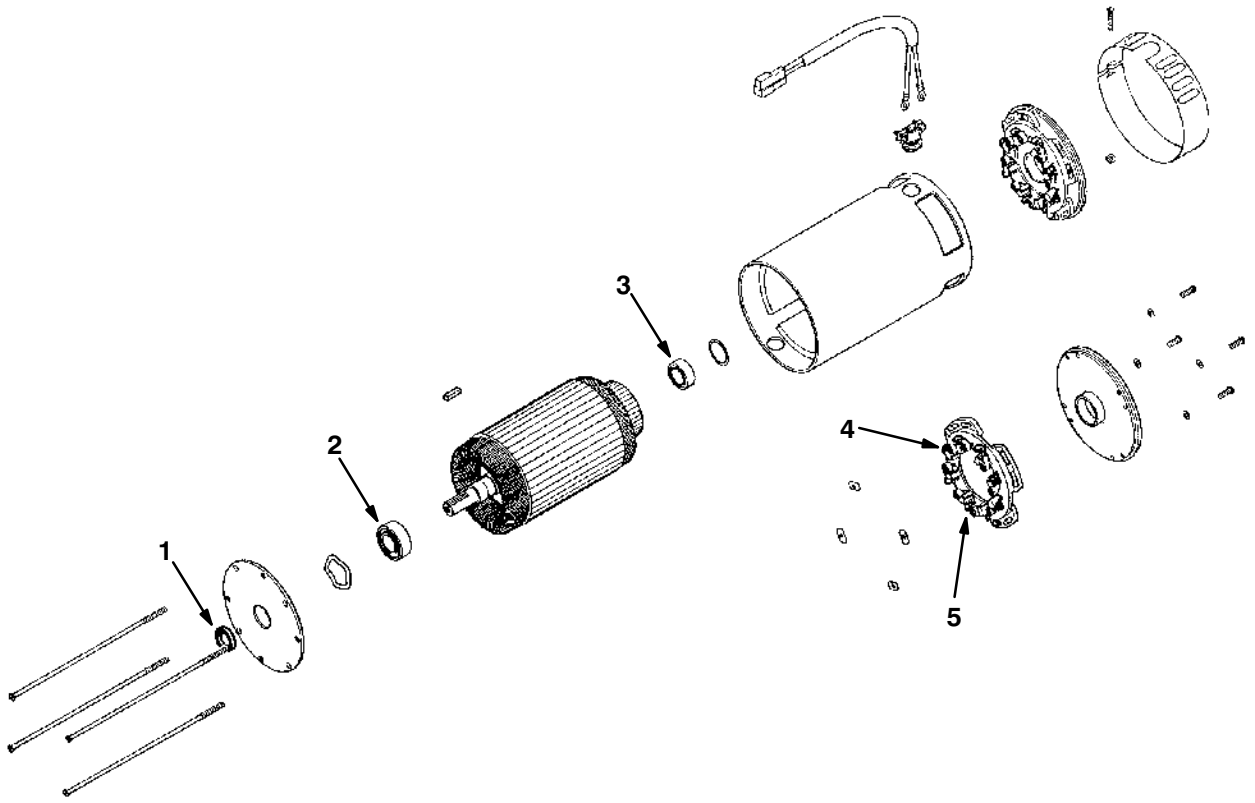


06454/06453

Fig. 2 – Electric Motor Breakdown, 28386

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		28386	(000000–	)	Motor, Electric	1
▲	1	01981	(000000–	)	Screw	2
▲	2	01848	(000000–	)	Bracket	1
▲∇	3	32324	(000000–	)	Brush Assembly	2
▲▲	4	37925	(000000–	)	Brush and Spring	2
▲▲	5	01972	(000000–	)	Holder, Brush	1
▲▲	6	01973	(000000–	)	Clip, Brush Assembly	2
▲	7	38303	(000000–	)	Screw	2
▲	8	01974	(000000–	)	Stud	4
▲	9	38327	(000000–	)	Cap	2
▲	10	01975	(000000–	)	Nut	4
▲	11	01976	(000000–	)	Bushing	1
▲	12	01856	(000000–	)	Spring	1
▲∇	13	01841	(000000–	)	Armature	1
▲▲	14	38438	(000000–	)	Bearing Kit	1
▲	15	01978	(000000–	)	Field	1
▲	16	01979	(000000–	)	Band	1
▲	17	01980	(000000–	)	Washer	1
▲	18	38362	(000000–	)	Shell	1
▲	19	01854	(000000–	)	Bracket	1
▲	20	45419	(000000–	)	Spacer	1
▲	21	45420A	(000000–	)	Fan, Rotating	3
▲	22	45418A	(000000–	)	Fan, Stationary	1
▲	23	45421	(000000–	)	Spacer	2
▲	24	45422A	(000000–	)	Fan, Stationary	1
▲	25	45424A	(000000–	)	Shell	1
▲	26	45423	(000000–	)	Washer	1
▲	27	37939	(000000–	)	Nut	1
▲	28	10912	(000000–	)	Seal	1
▲		10925	(000000–	)	Connector	1
▲		10926	(000000–	)	Terminal	2

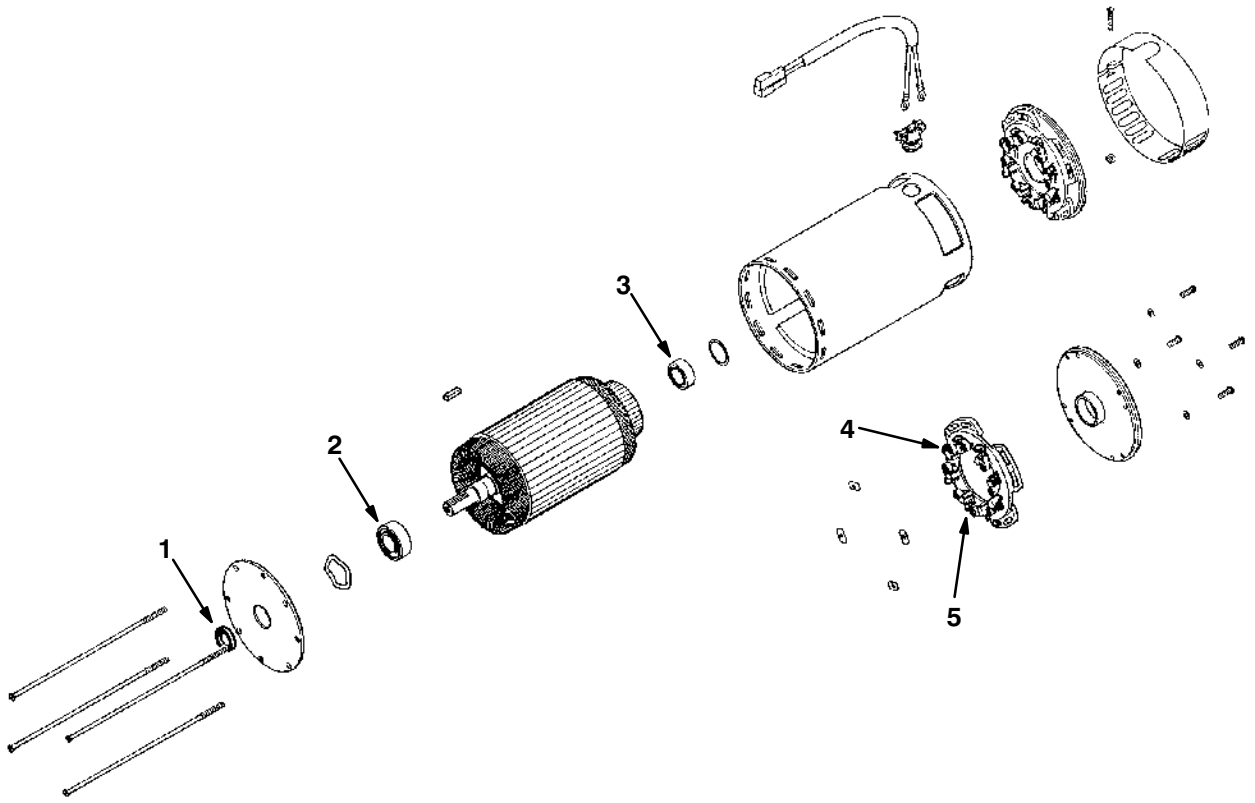
Fig. 3 – Electric Motor Breakdown, 04742



05197/00169

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		04742	(000000–	)	Motor, Electric	1
▲	1	37637	(000000–	)	Seal, Oil	1
▲	2	18626	(000000–	)	Bearing	1
▲	3	38378	(000000–	)	Bearing	1
▲	4	37643	(000000–	)	Spring, Brush	4
▲	5	37638	(000000–	)	Brush Assembly	4

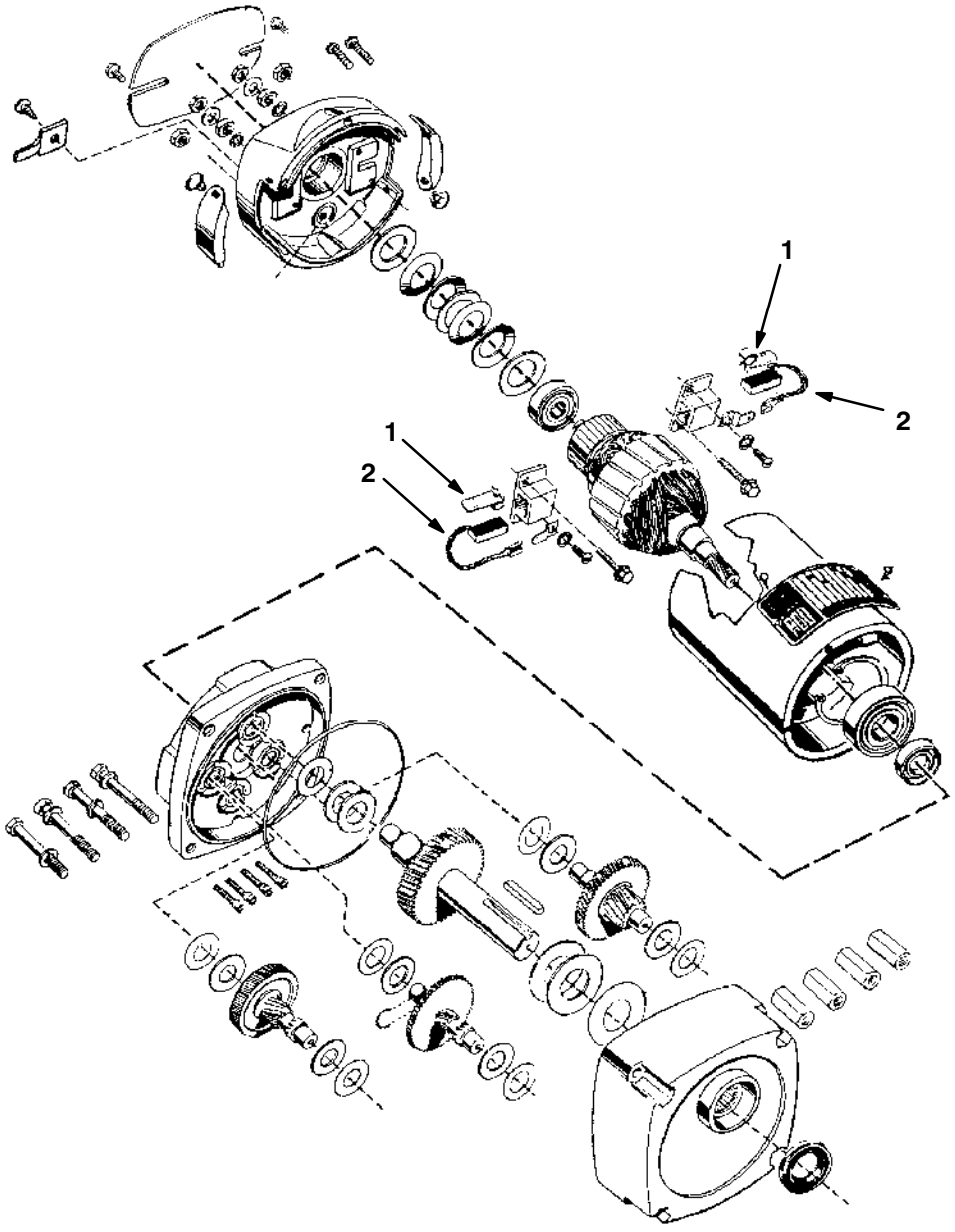
Fig. 4 – Electric Motor Breakdown, 05680



05198/00169

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		05680	(000000–	)	Motor, Electric	1
▲	1	37637	(000000–	)	Seal, Oil	1
▲	2	18626	(000000–	)	Bearing	1
▲	3	38378	(000000–	)	Bearing	1
▲∇		18634	(000000–	)	Brush Holder Assembly	1
▲▲	4	37643	(000000–	)	Spring, Brush	4
▲▲	5	37638	(000000–	)	Brush	4
▲▲		48856	(000000–	)	Holder, Brush	1

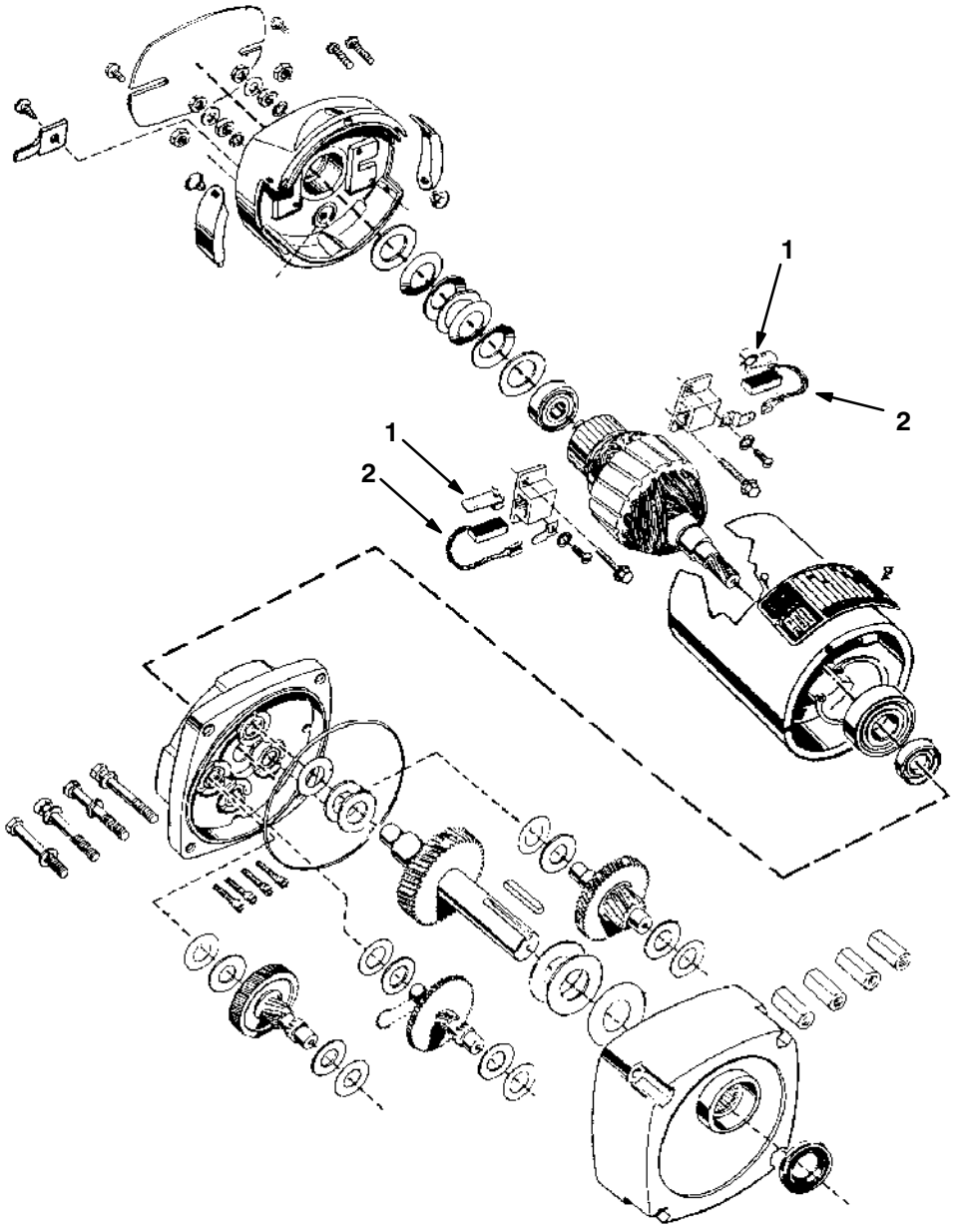
Fig. 5 – Electric Motor Breakdown, 04656



05196/06452

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇		04656	(000000–)	Motor, Electric	1
▲	1	11751	(000000–)	Spring, Brush	2
▲	2	11752	(000000–)	Brush, Pigtail, Clip	2

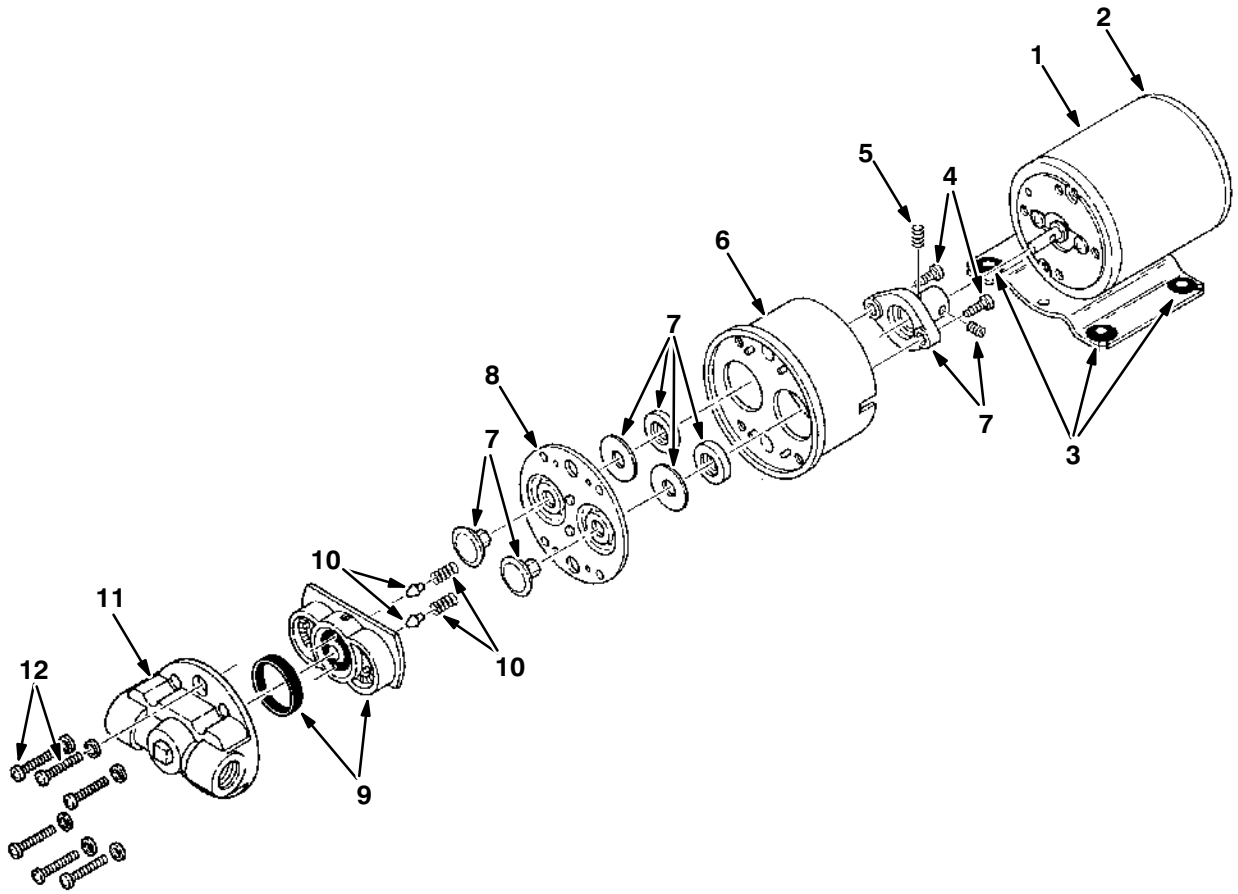
Fig. 6 – Electric Motor Breakdown, 27851



06450/06452

	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
∇		27851	(000000–)	Motor, Electric	1
▲	1	11751	(000000–)	Spring, Brush	2
▲	2	11752	(000000–)	Brush, Pigtail, Clip	2

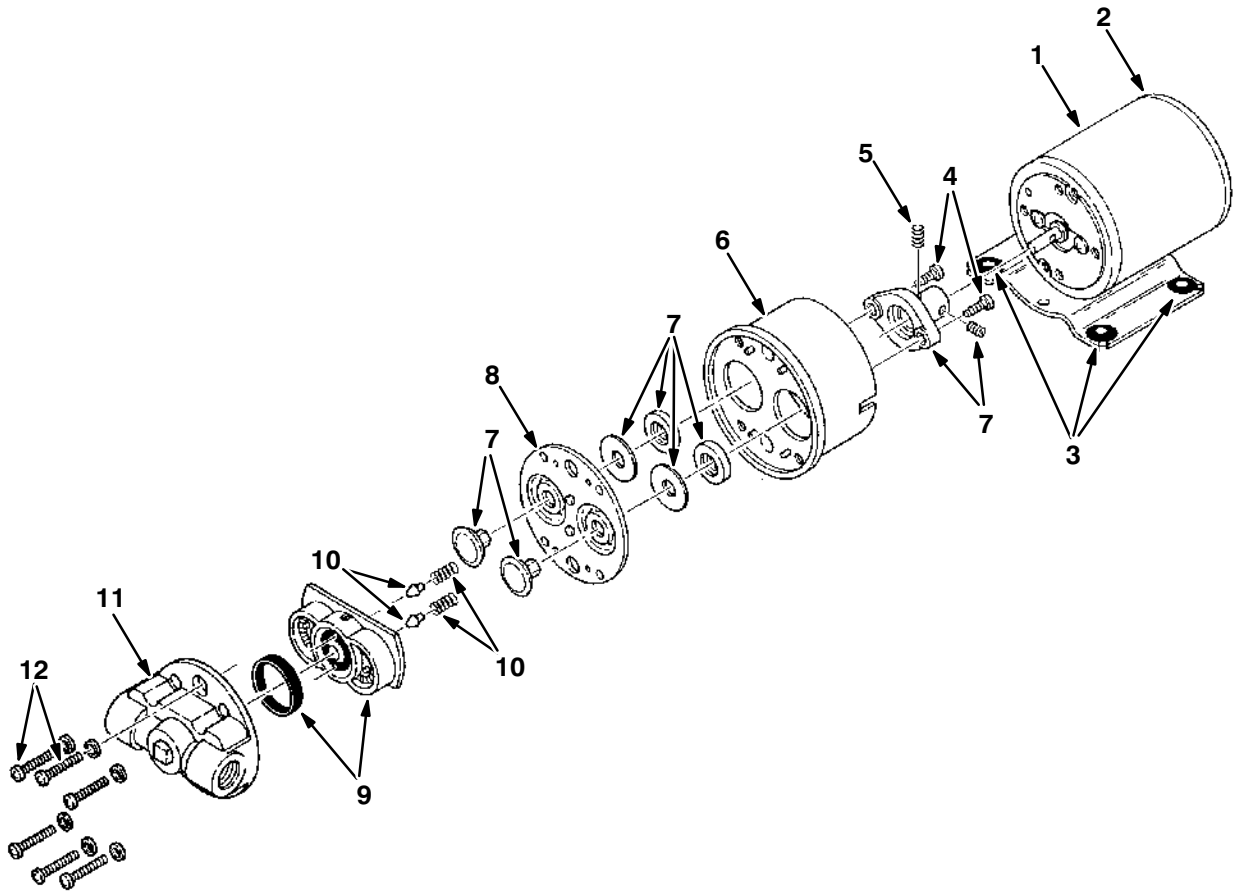
Fig. 7 – Water Pump Breakdown, 10916



05207/05092

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		10916	(000000–	)	Pump, Water	1
▲∇	1	65700	(000000–	)	Motor, 36V DC	1
▲▲	2	65701	(000000–	)	Brush, Endbell	1
▲▲		65702	(000000–	)	Brush Kit	1
▲	3	65703	(000000–	)	Grommets	4
▲∇		65710	(000000–	)	Pump Head Assembly	1
▲▲	4	65667	(000000–	)	Cam/Bearing Screw	2
▲▲	5	65668	(000000–	)	Cam/Bearing Set Screw	1
▲▲		65705	(000000–	)	Cam/Bearing Set	1
▲▲	6	49901	(000000–	)	Bearing Cover	1
▲▲	7	65706	(000000–	)	Piston, Inner/Out	1
▲▲	8	65707	(000000–	)	Diaphram Kit	1
▲▲	9	65708	(000000–	)	Check Valve	1
▲▲	10	65709	(000000–	)	Bypass, Poppet	1
▲▲	11	49886	(000000–	)	Housing, Pump	1
▲▲	12	65675	(000000–	)	Pump Screws	6

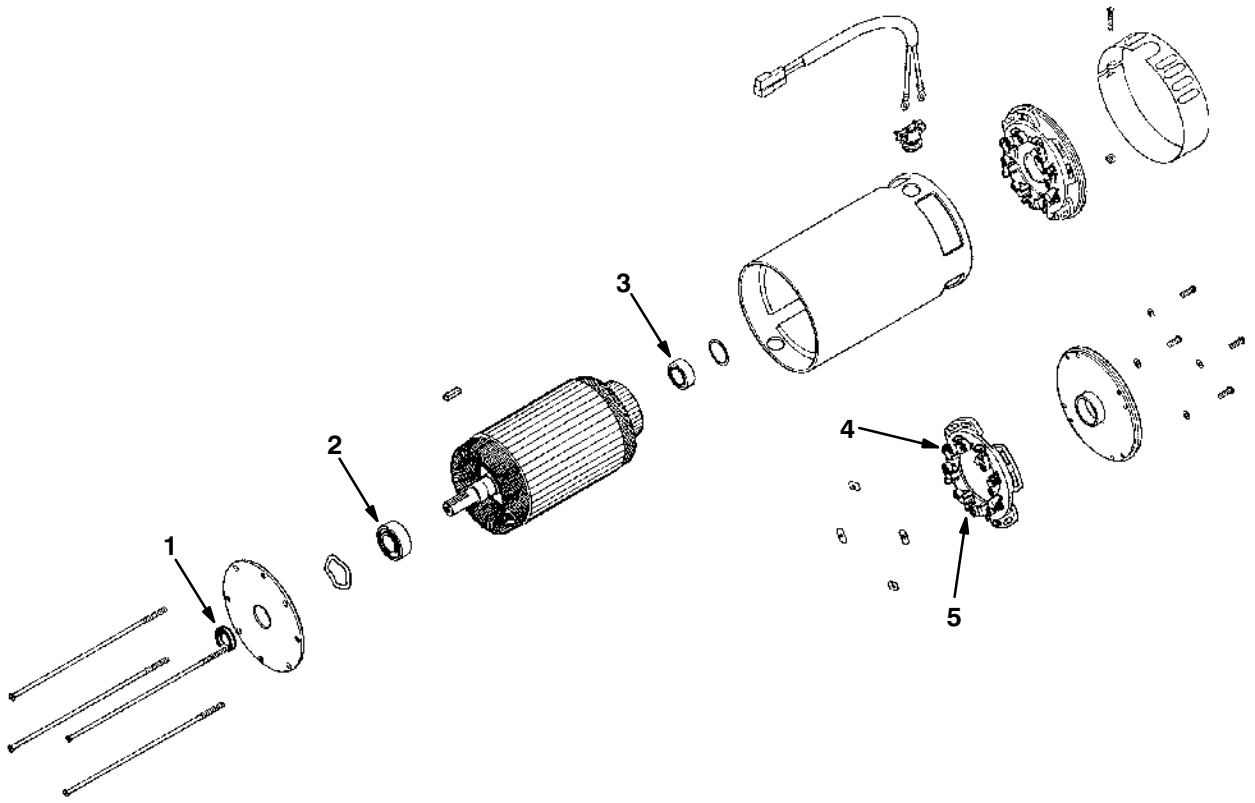
Fig. 8 – Water Pump Breakdown, 27839



06451/05092

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		27839	(000000–	)	Pump, Water	1
▲∇	1	65700	(000000–	)	Motor, 36V DC	1
▲▲	2	65701	(000000–	)	Brush, Endbell	1
▲▲		65702	(000000–	)	Brush Kit	1
▲	3	65703	(000000–	)	Grommets	4
▲∇		65710	(000000–	)	Pump Head Assembly	1
▲▲	4	65667	(000000–	)	Cam/Bearing Screw	2
▲▲	5	65668	(000000–	)	Cam/Bearing Set Screw	1
▲▲		65705	(000000–	)	Cam/Bearing Set	1
▲▲	6	49901	(000000–	)	Bearing Cover	1
▲▲	7	65706	(000000–	)	Piston, Inner/Out	1
▲▲	8	65707	(000000–	)	Diaphram Kit	1
▲▲	9	65708	(000000–	)	Check Valve	1
▲▲	10	65709	(000000–	)	Bypass, Poppet	1
▲▲	11	49886	(000000–	)	Housing, Pump	1
▲▲	12	65675	(000000–	)	Pump Screws	6

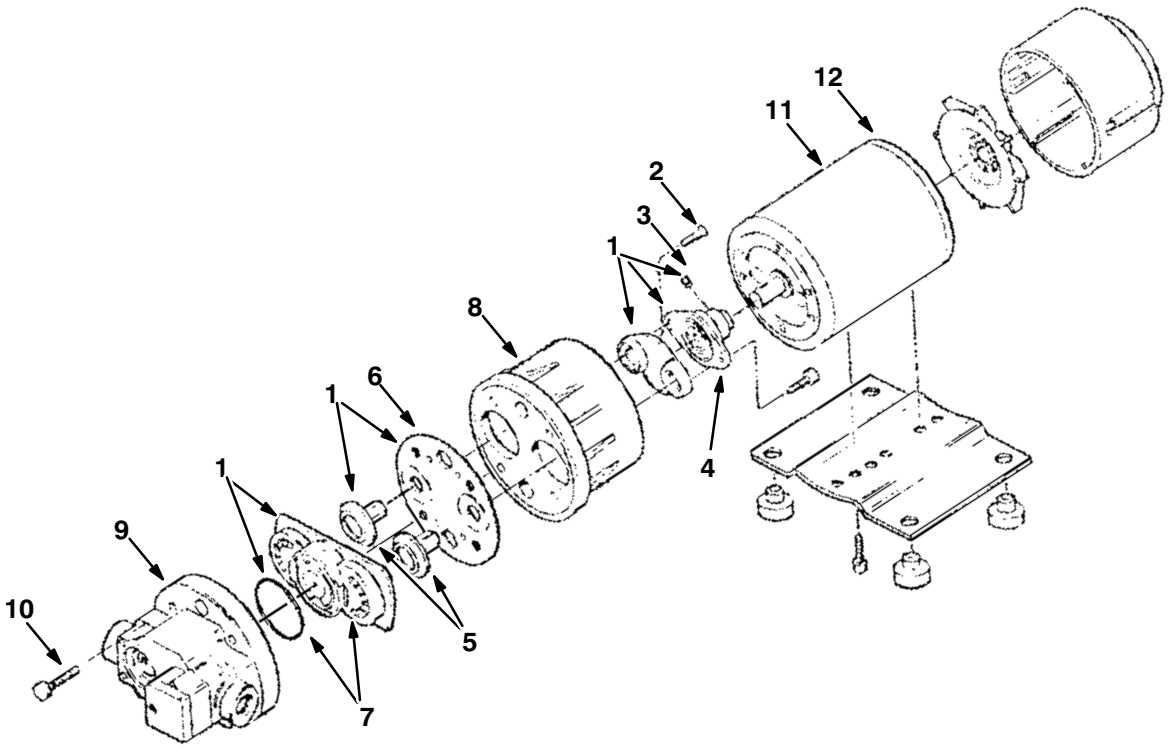
Fig. 9 – Electric Motor Breakdown, 04922



05208/00169

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		04922	(000000–	)	Motor, Electric	1
▲	1	37637	(000000–	)	Seal, Oil	1
▲	2	18626	(000000–	)	Bearing	1
▲	3	38378	(000000–	)	Bearing	1
▲	4	11757	(000000–	)	Spring, Brush	4
▲	5	37638	(000000–	)	Brush Assembly	4

Fig. 10 – Water Pump Breakdown, 65590



07525/07526

	Ref.	Tennant Part No.	Machine Serial Number		Description	Qty.
∇		65590	(000000–	)	Pump, Water	1
▲	1	65678	(000000–	)	Seal Kit	1
▲	2	65667	(000000–	)	Cam/Bearing Screw	1
▲	3	65668	(000000–	)	Cam/Bearing Set Screw	1
▲	4	65669	(000000–	)	Cam/Bearing Kit	1
▲	5	65671	(000000–	)	Piston, Inner/Out	1
▲	6	65672	(000000–	)	Diaphram Kit	1
▲	7	65673	(000000–	)	Check Valve Assembly	1
▲	8	65670	(000000–	)	Bearing Cover	1
▲	9	65674	(000000–	)	Switch Assembly/Housing	1
▲	10	65675	(000000–	)	Pump Screws	1
▲	11	65676	(000000–	)	Motor, 36VDC	1
▲	12	65677	(000000–	)	Brush/Rectifier Assembly	1
▲		10923	(000000–	)	Connector, 2 Conductor	1
▲		10924	(000000–	)	Terminal, Male	2
▲		10917	(000000–	)	Seal, Connector	2

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TENNANT COMPANY SERVICE LITERATURE AVAILABLE...

A variety of information is available to you in forms to suit your needs. The following is a list of those publications that relate to the Model 465 and 480 family of machines:

Machine Model	Publication	Form	TENNANT Part No.
465/480/490	Operation, Maintenance, and Parts Manual	Printed	MM184
465/480/490	Operation, Maintenance, and Parts Manual	Microfiche	85184
465/480/490	Operator Handbook, English, French, Spanish, German	Printed	MM186

Keep your manuals in a safe, convenient location for your future reference in order to operate, maintain, and order repair parts for your machine. Everyone who operates, maintains, or purchases parts for the machine should have easy access to a copy of the manual.

To get pricing information or to order copies of these publications, contact your nearest Tennant Company parts warehouse, distributor, or sales representative.