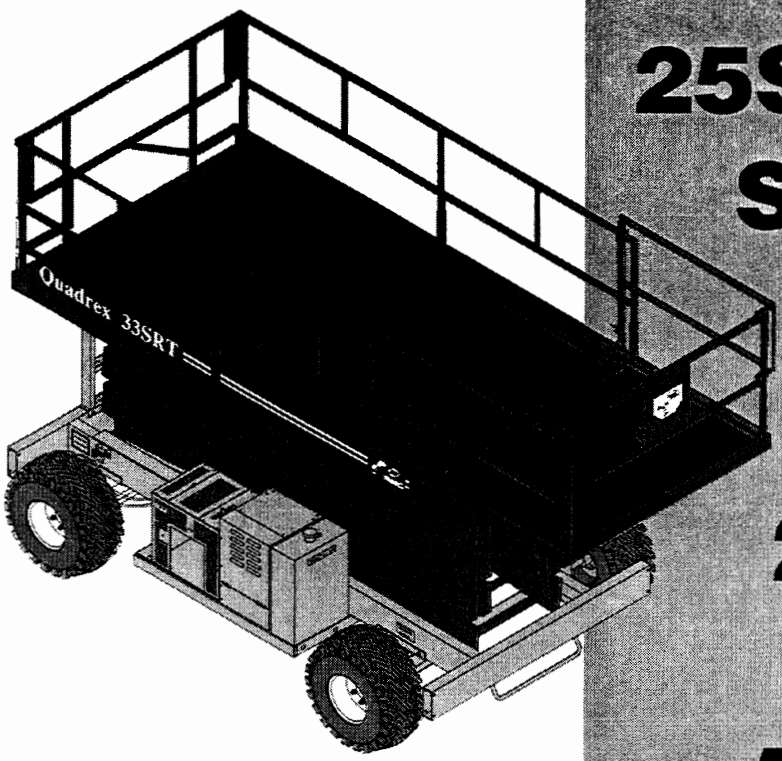
Operation and Maintenance Manual with Parts Catalog for

Quadrex Models 25SRT & 33SRT Semi-Rough Terrain and 25E & 33E Electric Aerial Work Platforms



mec

Aerial Work Platforms

Part #7795 08/94 1.5M

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WARNING

DO NOT perform preliminary installations, operate, service, replace, adjust or maintain equipment on this machine until you have *thoroughly* read and understood the Safety section of this manual, and have read and understood all the sections of this manual that apply to the job you are doing on this machine.

Failure to heed all warnings posted on this machine and written in this manual, could cause death, serious injury or property damage.

SECTION I

OPERATION AND OPERATOR MAINTENANCE

This section provides valuable safety information, equipment description, explanation of controls and indicators, how to operate the equipment, how to troubleshoot the equipment, and when and how to service the equipment.

CHAPTER 1
SAFETY

USE OF NOTES, CAUTIONS AND WARNINGS

NOTE - Additional information to further explain instructions.

CAUTION - Failure to follow instruction could cause damage to equipment.

WARNING - Failure to follow instruction could cause death, personal injury and property damage.

DANGER - Failure to follow instruction will cause death, personal injury and property damage.

GENERAL OPERATING RULES, SAFETY AND LIMITATIONS

MEC designs Quadrex work platforms to be safe and reliable. They are rugged and maneuverable, but must be used only for purposes and in ways intended. That is to raise personnel and tools to overhead work areas.

Respect your machine; do not neglect or misuse it.

Inspect your machine before using. **Do not** use machine if it is not working properly in any way.

Check job site for unsafe working conditions. **Do not** operate on uneven or soft terrain. **Do not** raise platform if machine is on an incline.

Use machine only for purposes for which it was designed.

Never take chances. **Do not** use machine if your physical condition is uncertain in any way or if you are taking prescription drugs which might impair or limit your mental or physical capabilities.

Do not exceed the load capacity of the platform.

Do not smoke while charging or changing an LPG tank or filling gasoline tank.

Do not enter or exit platform while machine is in motion.

An operator of any type of work platform is subject to certain hazards that cannot be protected by mechanical means. It is therefore essential that operators be competent, careful, physically and mentally fit and thoroughly trained in safe operation of this machine.

⚠ DANGER

DO NOT operate machine near power lines. Platform and enclosures are not insulated.

Failure to follow this warning will cause death or personal injury.

OPERATOR QUALIFICATIONS

Quadrex machines must be operated and maintained by qualified personnel only!

To qualify for operation and maintenance of this unit, an individual must read and thoroughly understand this manual. If a proposed operator or maintenance person fails to understand any segment of this manual, his or her supervisor can clarify the misunderstanding through written correspondence or a phone call to:

Mayville Engineering Co., Inc.
Aerial Work Platforms
715 South Street
Mayville, WI 53050
Phone: 414-387-4500

SAFETY FEATURES

1. **Automatic Parking Brake**
   The Automatic Parking Brake is a spring-actuated, normally-on system. The brake is released during drive by hydraulic pressure built up in the drive circuit. A brake valve is used to maintain release during drive and an orifice is employed to control the braking function.

2. **Emergency Stop**
   The Emergency Stop (Figures 1-1 and 1-2) is located on the upper control box assembly on the platform and on the lower control panel on the side of machine.

3. **Emergency Down**
   The Emergency Down control (Figure 1-3) is located in center of lower beam weldment above the front axle. Pull control handle on cable to allow platform to descend to the stowed position.

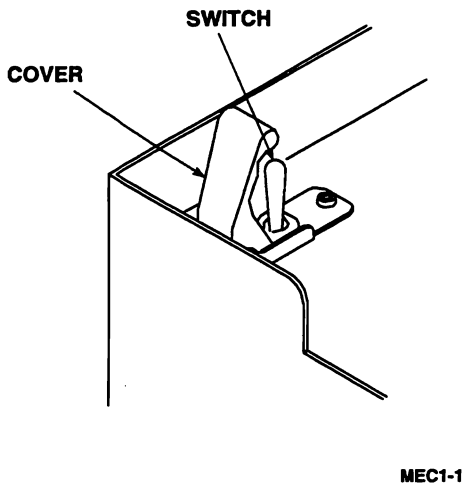

Figure 1-1. Emergency Stop - Upper Control Box Assembly

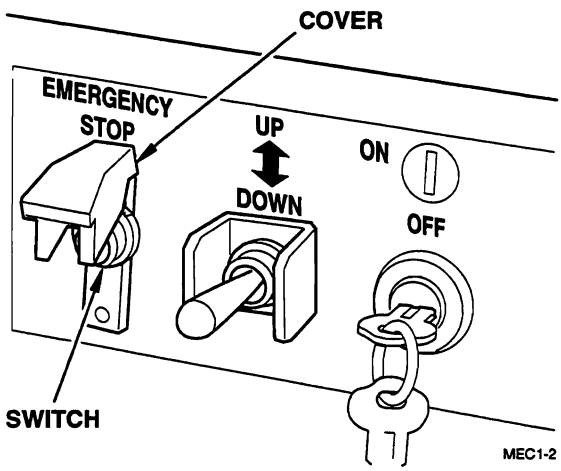

Figure 1-2. Emergency Stop - Lower Control Panel

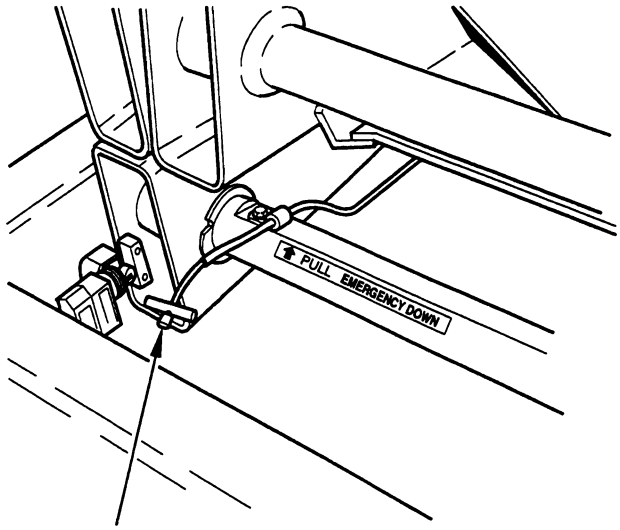

Figure 1-3. Emergency Down Control

MAINTENANCE LOCKS

⚠ WARNING

MAINTENANCE LOCKS MUST BE INSTALLED when maintaining or servicing machine with platform fully or partially extended.

Working through beams on scissors lifting device creates a hazardous situation which could cause death or personal injury.

FOLLOW MAINTENANCE LOCKS PROCEDURE!

1. Remove load from platform.

2. Using lower control panel, raise platform until both maintenance locks (1, Figure 1-4) can be pivoted fully upright.

3. While persons A and B hold each maintenance lock upright, person C slowly lowers platform using lower control panel until each lock (1, Figure 1-5) engages pivot pin (2). Persons A and B move clear.

4. Person C lowers platform until both locks fully engage pins and weight of platform and scissors rests completely on both maintenance locks.

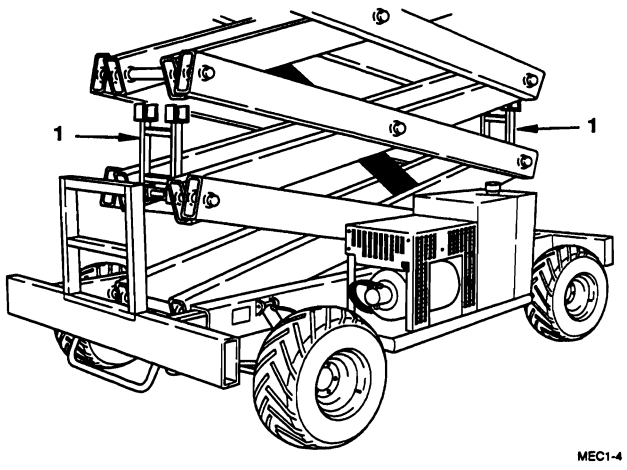

Figure 1-4. Positioning Maintenance Locks

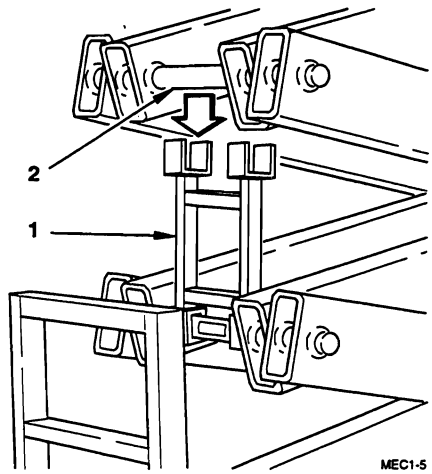

Figure 1-5. Maintenance Locks in Place

⚠ WARNING

DO NOT SERVICE EXTENDED OR PARTIALLY EXTENDED MACHINE UNTIL THE PRECEDING PROCEDURE IS ACCOMPLISHED.

TIP PROTECTION SYSTEM

A tip sensor is incorporated in the machine to detect when the machine is tipped to a 4-1/2 degree angle or greater. The system will warn the operator of this out-of-level condition. The operator must either reposition the machine to a more level position or use the optional hydraulic outriggers to level the unit, if so equipped.

CHAPTER 2
INTRODUCTION

DESCRIPTION

Quadrex aerial work platforms (Figures 2-1 and 2-2) are hydraulically operated units driven by either an electric motor or a gasoline engine. The platform is raised and lowered by a hydraulic cylinder mounted inside a scissors mechanism. All units are steered by a hydraulic cylinder, which is controlled from the upper control box assembly on the platform. Auxiliary lift controls and engine (dual fuel series) are located at the lower control panel on the side of the unit. The emergency lowering control is located between the scissor arms at the front of the unit.

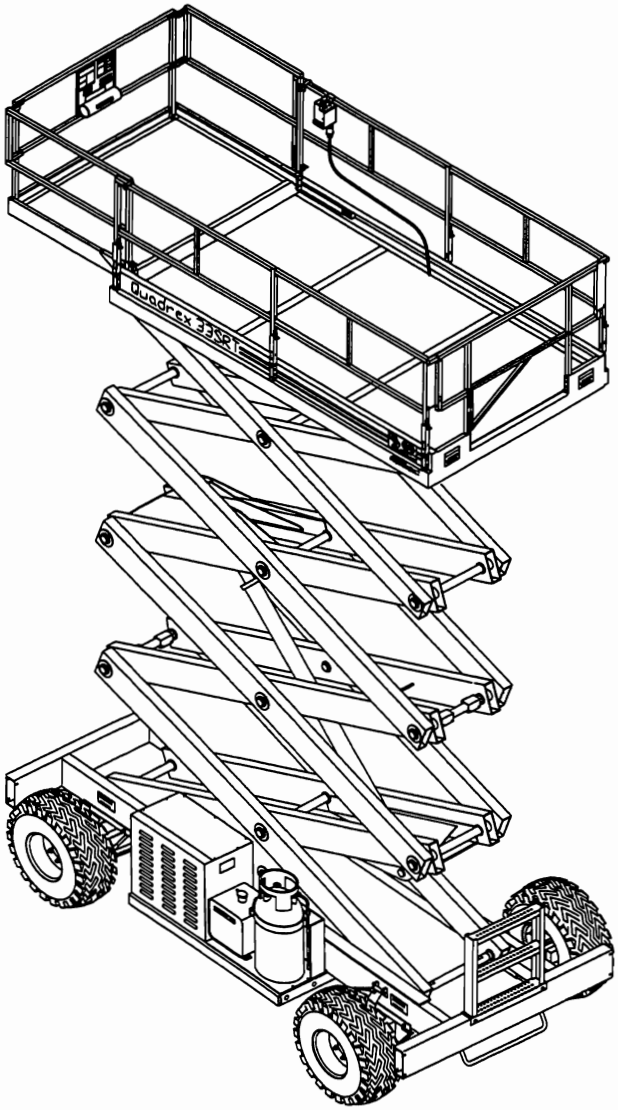

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Figure 2-1. 25SRT and 33SRT Gas Engine Driven Quadrex Aerial Work Platforms

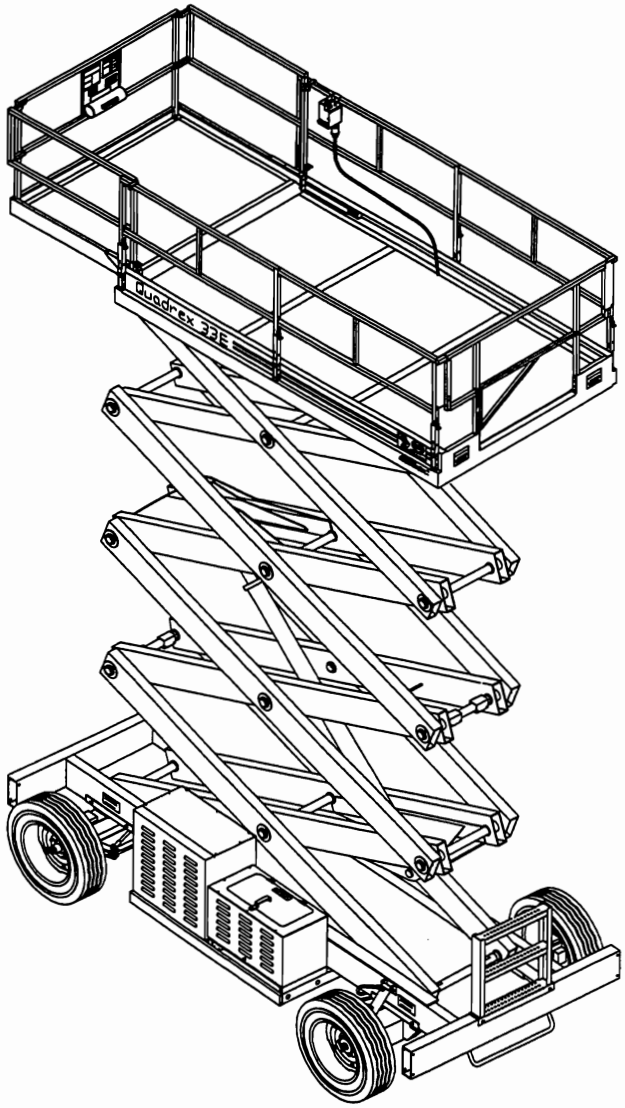

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Figure 2-2. 25E and 33E Electric Motor Driven Quadrex Aerial Work Platforms

QUADREX SPECIFICATIONS

Important dimensional, capacity and capability information is provided for your information. The following illustration contains letter callouts which correspond to letters in the Specifications Chart on the next page to permit you to clearly identify the data you require. Because we constantly strive to improve our products, we may make changes to these specifications without issuing a notice to you.

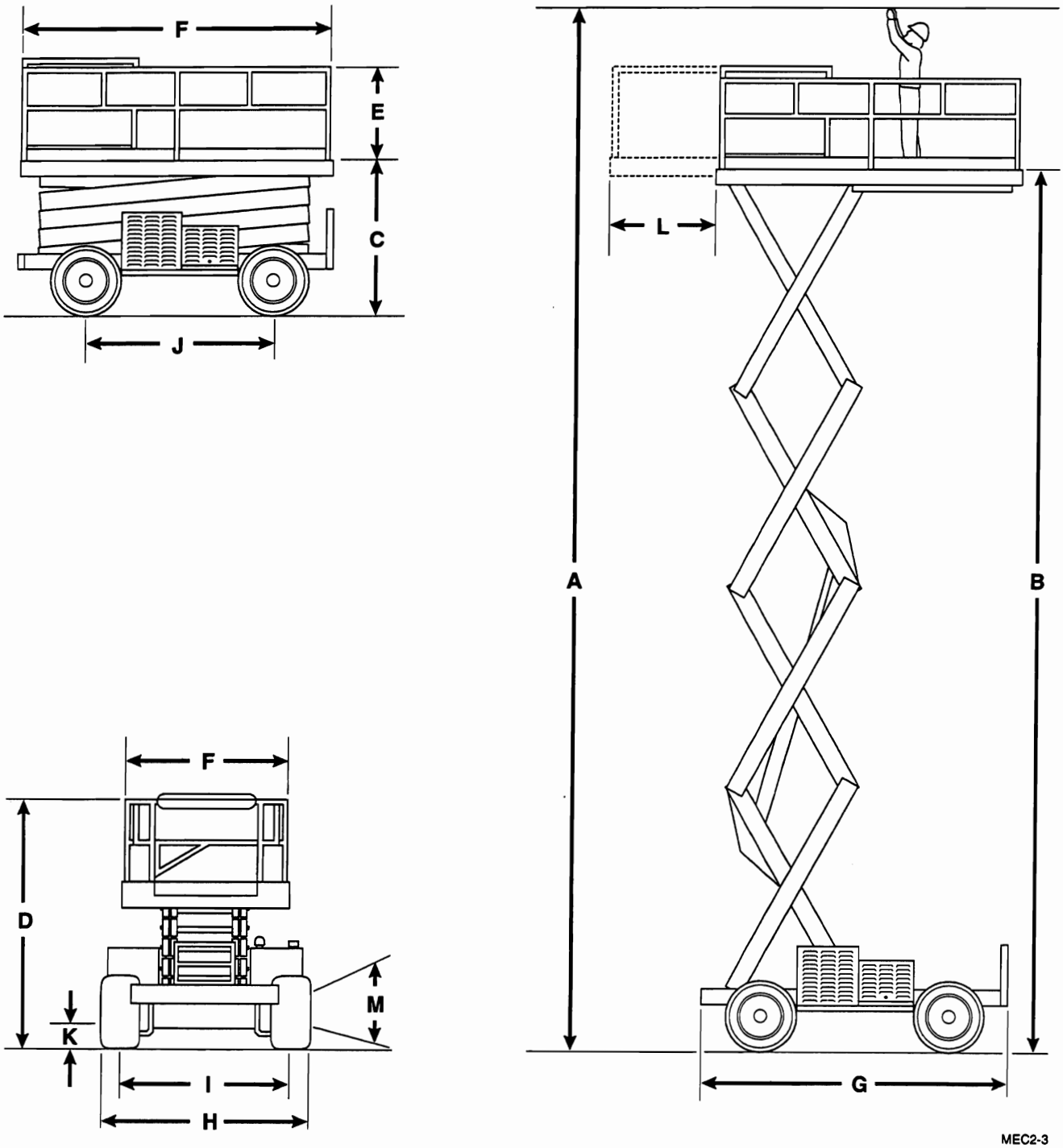

Figure 2-3. Quadrex Specification Attribute Identities

SPECIFICATIONS DATA

MODELS	SEMI-ROUGH TERRAIN 33SRT	SEMI-ROUGH TERRAIN 25SRT	ELECTRIC 33E	ELECTRIC 25E
MEASUREMENTS				
Height				
A. Work Height	39' (11.9m)	31' (9.5m)	39' (11.9m)	31' (9.5m)
B. Platform Hgt. (Max.)	33' (10.06m)	25' (7.62m)	33' (10.06m)	25' (7.62m)
C. Platform Hgt. (Min.)	62.5" (1.6m)	54.5" (1.38m)	63.5" (1.61m)	55.5" (1.41m)
D. Overall Height	104.5" (2.65m)	96.5" (2.45m)	105.5" (2.68m)	97.5" (2.48m)
E. Guardrail Height	42" (1.07m)	42" (1.07m)	42" (1.07m)	42" (1.07m)
Load Capacity				
W/O Ext. Platform	1500# (680.4kg)	2000# (907.2kg)	1500# 680.4kg)	2000# (907.2kg)
With Ext. Platform	1250# (567kg)	1750# (793.8kg)	1250# (567kg)	1750# (793.8kg)
Dimensions				
F. Platform Size	74" W x 132" L (1.89m W x 3.35m L)		67.8 Square Feet (56.7 square meters)	
G. Overall Length	138" (3.5m)	138" (3.5m)	138" (3.5m)	138" (3.5m)
H. Overall Width	81.5" (2.07m)	81.5" (2.07m)	75.5" (1.92m)	75.5" (1.92m)
I. Wheel Track	69.5" (1.77m)	69.5" (1.77m)	60" (1.52m)	60" (1.52m)
J. Wheel Base	92" (2.34m)	92" (2.34m)	92" (2.34m)	92" (2.34m)
K. Ground Clearance	9.5" (0.24m)	9.5" (0.24m)	11.5" (0.29m)	11.5" (0.29m)
L. Rollout Ext. Plt. (Opt.)	48" Long (1.22m)		Adds 23 Square Feet (19 square meters)	
M. Axle Pivot Distance	6" (0.15m)	6" (0.15m)	6" (0.15m)	6" (0.15m)
Gradeability	25%	25%	25%	25%
Speed				
Lift/Lower	38/45 Seconds		44/45 Seconds	
Travel	0.5;1.0;2.0 Mph (0.81;1.61;3.22 Kph)		0.5;1.5;3.0 Mph (0.81;2.42;4.84 Kph)	
Turning Radius				
Inside	131" (3.33m)	131" (3.33m)	127" (3.22m)	127" (3.22m)
Outside	230" (5.84m)	230" (5.84m)	213" (5.41m)	213" (5.41m)
Gross Wgt. (Approx.)	6380# (2894kg)	6080# (2758kg)	6740# (3057kg)	6440# (2921kg)
Hydraulic Tank Cap.	12 U.S. Gallons (45.5 liters) (use standard 10W hydraulic oil, non-detergent)			
Fuel Tank Capacity	6 U.S. Gallons/33#LP (23 liters/15kg)		Eight 220 Amp Hour Batteries	
Power	18 HP (13.4kw) Kohler Engine Air Cooled - Dual Fuel		48VDC Electric Motor	
Drive Axle	2 Wheel Rear Drive, Oscillating Rear Axle, Front Wheel Steering			
Tire Size	26" x 12" x 12" Pneumatic Super Terra Grip Tires Filled With Tiretyte II Sealant		8.75" x 16.5" LT, 29.2" Diameter Pneumatic	

Tires on Quadrex machines must be replaced with manufacturer's replacement tires to maintain stability factor of the machine. **LUG NUTS TO BE TORQUED TO 75-85 FT. LBS. AND CHECKED WEEKLY.**

Torque Specifications

Hydraulic Valve: Valve to manifold - 12 ft. lbs.
Valve nut to valve - 5 in. lbs.

Hydraulic Drive Motor Castle Nut: 300 ft. lbs. then next slot on castle nut and install cotter pin

Recommended Fuels (Dual Fuel Series)

LPG: Natural Gas Processors Association specification HD 5

Gasoline: Normal unleaded or leaded gasoline

Bolts	 Grade 2	 Grade 5	 Grade 8
1/4-20	49 in. lbs.	76 in. lbs.	9 ft. lbs.
5/16-18	8 ft. lbs.	13 ft. lbs.	18 ft. lbs.
3/8-16	15 ft. lbs.	23 ft. lbs.	33 ft. lbs.
7/16-14	24 ft. lbs.	37 ft. lbs.	52 ft. lbs.
1/2-13	37 ft. lbs.	57 ft. lbs.	80 ft. lbs.

CHAPTER 3
OPERATION

This chapter provides identification of all controls and indicators on the Quadrex models 25SRT and 33SRT dual fuel and 25E and 33E electric aerial work platforms and provides specific instructions on how to operate the units. The 25SRT/33SRT dual fuel units are covered first and the 25E/33E electric units are covered second.

CONTROLS AND INDICATORS - MODELS 25SRT AND 33SRT DUAL FUEL UNITS

All controls and indicators provided on the dual fuel units are identified by a number and pointed out in an illustration. The name and a description of each control and indicator is provided after the number.

Lower Control Panel Controls and Indicators (Figure 3-1)

This control panel is used for initial start-up of the unit and during performance of the daily walk-a-round checks before operating the machine.

1. EMERGENCY STOP Switch — Press cover which actuates switch. All electrical power is turned off and engine and hydraulic power is shut down. To reset switch, raise cover and move switch handle to opposite position.

2. UP/DOWN Switch — Controls movement of platform. UP position energizes hydraulic system to raise platform. DOWN position energizes hydraulic system to lower platform. Switch will return to center or neutral position when released.

3. ON/OFF Key Switch — Controls electrical power to engine. ON position allows flow of electrical power. OFF position breaks electrical circuit.

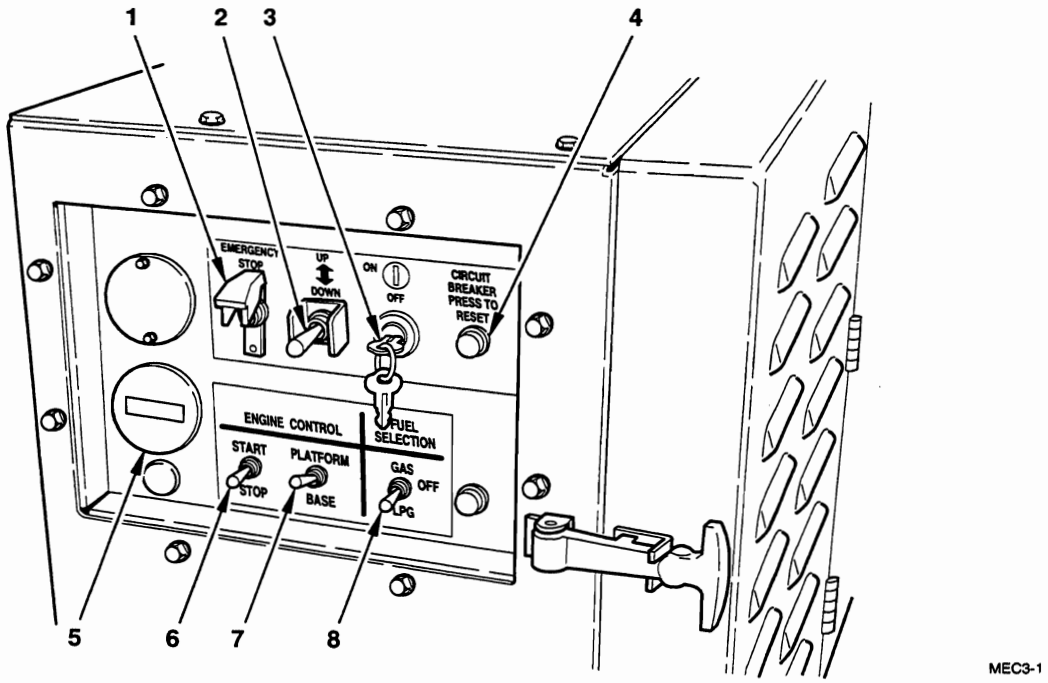

Figure 3-1. Lower Control Panel Controls and Indicators - 25SRT/33SRT Dual Fuel Units

4. CIRCUIT BREAKER Switch	Provides circuit protection to engine electrical system. When pushed in, electrical power will flow. When "tripped" (switch sticking out), circuit is interrupted.
5. Operation Hour Meter	Optional indicator records the number of hours the unit has been operated.
6. START/STOP Switch	In START position, the engine starter is engaged to start engine. When released, starter will disengage and switch will move to center or run position where engine will run continuously. In STOP position, engine will stop running.
7. PLATFORM/BASE Switch	In PLATFORM position, the upper control box assembly is completely activated. In BASE position, all throttle control at the upper control box is deactivated.
8. FUEL SELECTION Switch	Controls flow of fuel to engine. GAS position allows gasoline to flow to engine. OFF position keeps all fuel from flowing to engine. LPG position allows Liquefied Petroleum Gas (LPG) to flow to engine.
Low Engine Oil Alarm	Not shown. Located behind plate to the left of EMERGENCY STOP switch. Sounds when engine oil level is low. LOW OIL light on upper control box assembly will illuminate at the same time. Power for drive, lift and steer functions is shut down and fuel flow to engine is stopped.

Upper Control Box Assembly Controls and Indicators (Figure 3-2)

This control box is located on the platform and is the primary station used during normal operation of the unit. This set of controls may be used while the operator is walking along side the unit or while the operator is on the platform. They are also used during performance of the daily walk-a-round checks.

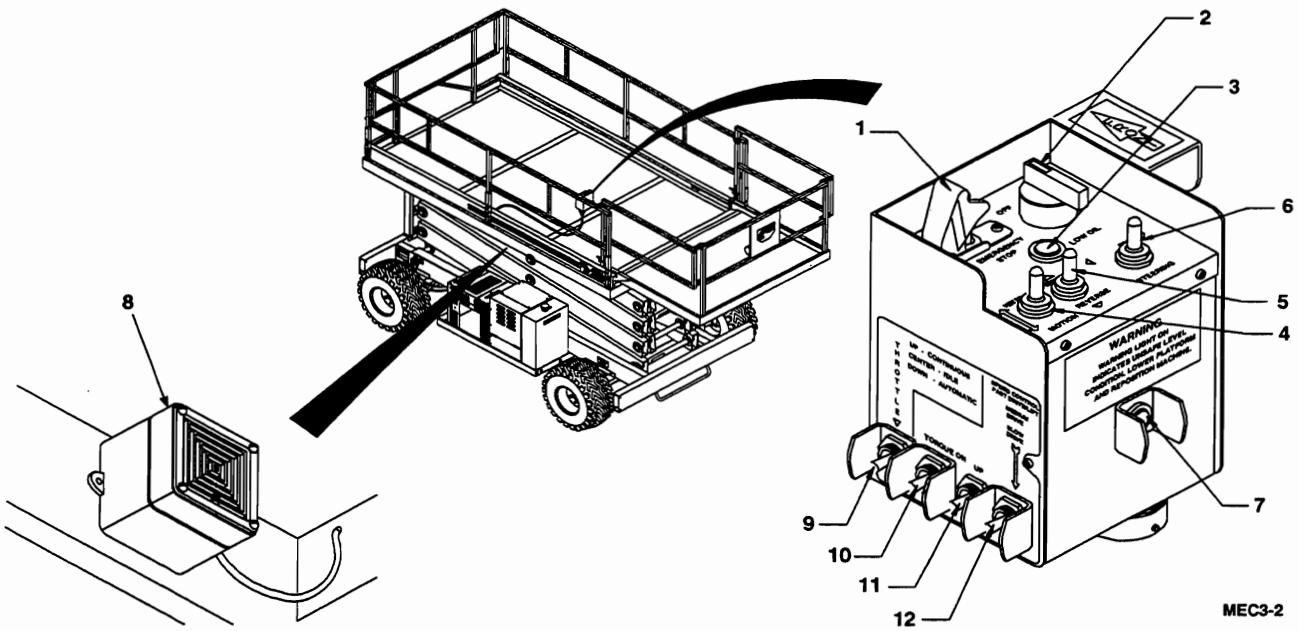

Figure 3-2. Upper Control Box Assembly Controls and Indicators - 25SRT/33SRT Dual Fuel Units

1. EMERGENCY STOP Switch	Press cover which actuates switch. All electrical power is turned off and engine and hydraulic power is shut down. To reset switch, raise cover and move switch handle to opposite position.
2. OFF/RUN/START Switch	In START position, the engine starter is engaged to start engine. When released, starter will disengage and switch will move to RUN position where engine will run continuously. In OFF position, engine will stop running.
3. LOW OIL Light	Illuminates when engine oil level is too low. Low engine oil alarm in lower control panel sounds at the same time. Power for drive, lift and steer functions is shut down and fuel flow to engine is stopped.
4. SAFETY Switch	Must be actuated and held in MOTION position when operating platform or driving unit. Switch will return to center or neutral position when released.
5. FORWARD/REVERSE Switch	Controls direction of movement. FORWARD position causes unit to move forward. REVERSE position causes the unit to move backwards. Switch will return to center or neutral position when released.
6. STEERING Switch	Controls steering angle of front wheels. Turns front steer wheels left in LEFT position and turns wheels right in RIGHT position. Switch will return to center or neutral position when released.
7. Amber Warning Light	Light illuminates when an out-of-level condition exists.
8. Tip Warning Alarm	Alarm sounds when an out-of-level condition exists and platform is raised above ten feet. Refer to Chapter 1, Safety.
9. THROTTLE Switch	Controls engine speed. UP - CONTINUOUS - Engine operates continuously at high speed. This setting must be used when using the optional generator. CENTER - IDLE - Engine operates at idle. DOWN - AUTOMATIC - Engine operates at idle or high speed as needed depending on switch settings on control box.
10. TORQUE ON/OFF Switch	ON position provides more power in drive mode. FAST DRIVE is not available when TORQUE is ON. Normal power in OFF position.
11. UP/DOWN Switch	Controls movement of platform. UP position energizes hydraulic system to raise platform. DOWN position energizes hydraulic system to lower platform. Switch will return to center or neutral position when released.
12. SPEED CONTROL Switch	Provides multiple speeds for driving and lifting platform. Three driving speeds - FAST DRIVE, MEDIUM DRIVE and SLOW DRIVE - are available. Fast platform lift speed is attained by placing switch in FAST DRIVE (lift) position. Normal lift speed is attained by placing switch in MEDIUM DRIVE (lift) position or SLOW DRIVE (lift) position.

Battery Box Service Controls (Figure 3-3)

The battery box is located behind the engine on the right side of the unit and contains a pair of engine control switches to be used by a service technician when performing troubleshooting of the engine.

1. START/STOP Switch — In START position, the engine starter is engaged to start engine. When released, starter will disengage and switch will move to center or run position where engine will run continuously. In OFF position, engine will stop running.

2. Throttle Switch — Controls engine speed. Up - IDLE - Engine operates at idle. Down - RUN - Engine operates continuously at high speed.

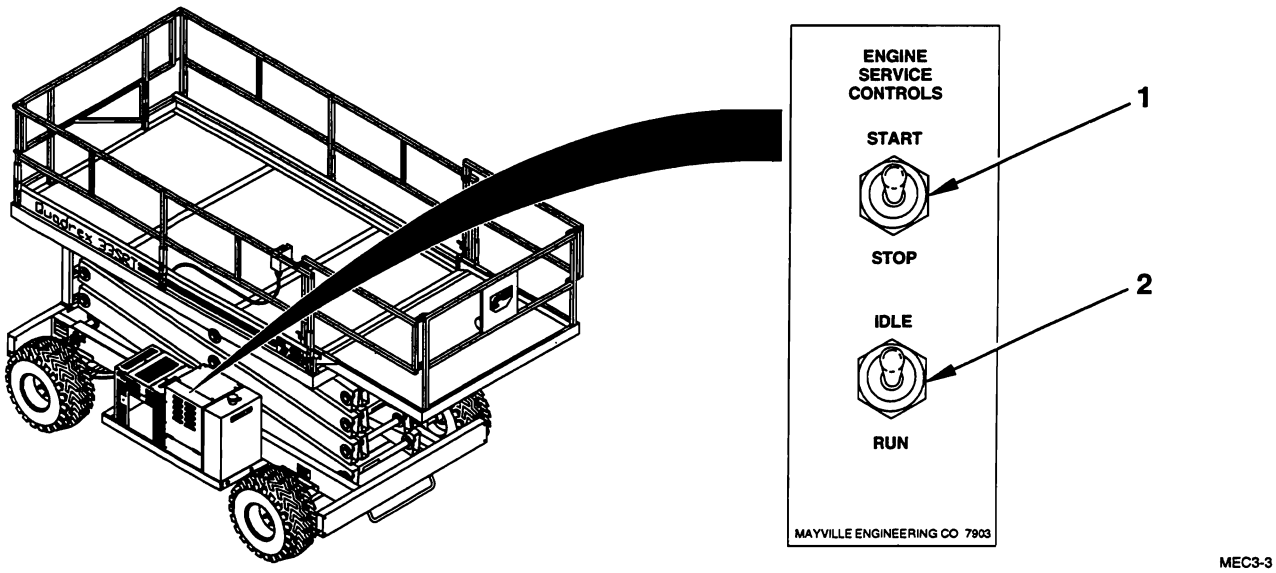

Figure 3-3. Battery Box Service Controls - 25SRT/33SRT Dual Fuel Units

CONTROLS AND INDICATORS - MODELS 25E AND 33E ELECTRIC UNITS

All controls and indicators provided on the electric units are identified by name and pointed out in an illustration. A description of each control and indicator is also provided.

Lower Control Panel Controls and Indicators (Figure 3-4)

This control panel is used for initial start-up of the unit and during performance of the daily walk-a-round checks before operating the machine.

1. Operation Hour Meter — Records the number of hours the unit has been operated.

2. EMERGENCY STOP Switch — Press cover which actuates switch. All electrical power is turned off and engine and hydraulic power is shut down. To reset switch, raise cover and move switch handle to opposite position.

3. UP/DOWN Switch — Controls movement of platform. UP position energizes hydraulic system to raise platform. DOWN position energizes hydraulic system to lower platform. Switch will return to center or neutral position when released.

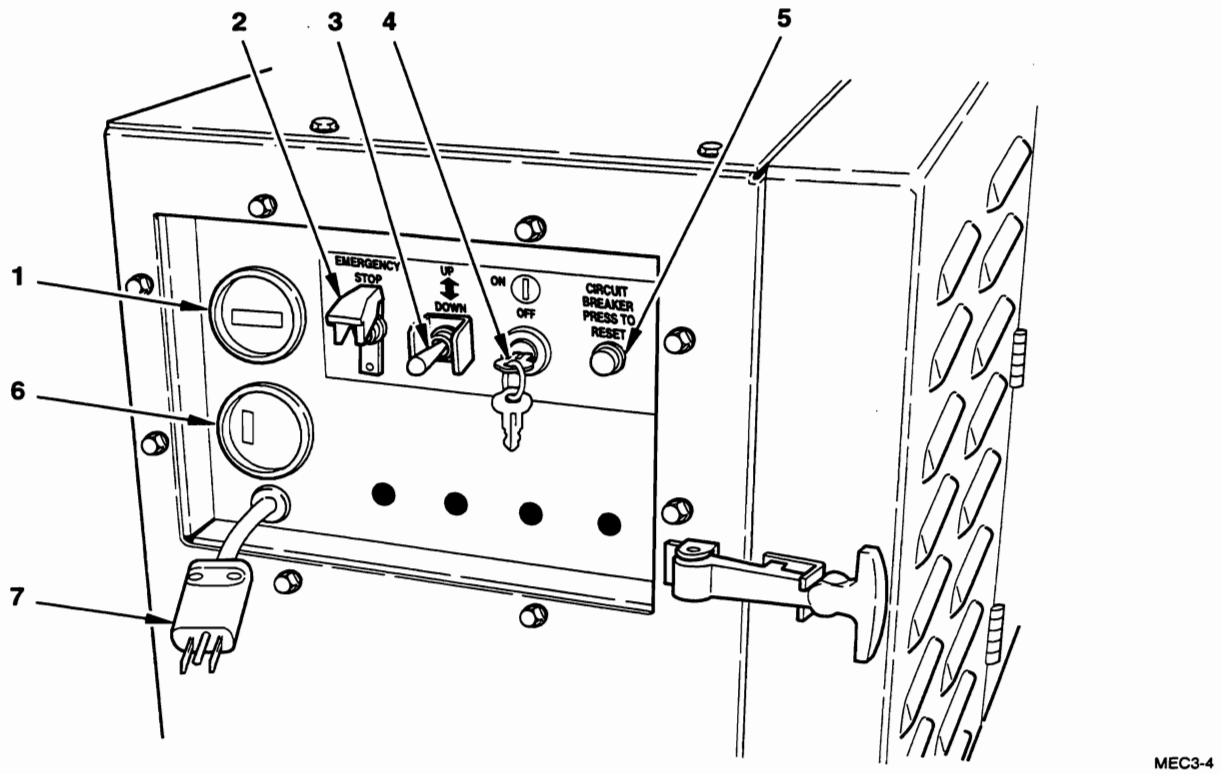

Figure 3-4. Lower Control Panel Controls and Indicators - Model 25E/33E Electric Units

4. ON/OFF Key Switch — Controls electrical power to engine. ON position allows flow of electrical power. OFF position breaks electrical circuit.

5. CIRCUIT BREAKER Switch — Provides circuit protection to engine electrical system. When pushed in, electrical power will flow. When "tripped" (switch sticking out), circuit is interrupted.

6. Battery Charge Indicator — Shows the approximate amount of electrical charge contained in the batteries.

7. Electrical Plug - 115V — Point of connection for extension cord to supply 115V power to electrical receptacle at side of platform floor. Powers 115V tools used by personnel on the platform.

Upper Control Box Assembly Controls and Indicators - Standard (Figure 3-5)

This control box is located on the platform and is the primary station used during normal operation of the unit. This set of controls may be used while the operator is walking along side the unit or while the operator is on the platform. They are also used during performance of the daily walk-a-round checks.

1. EMERGENCY STOP Switch — Press cover which actuates switch. All electrical power is turned off and engine and hydraulic power is shut down. To reset switch, raise cover and move switch handle to opposite position.

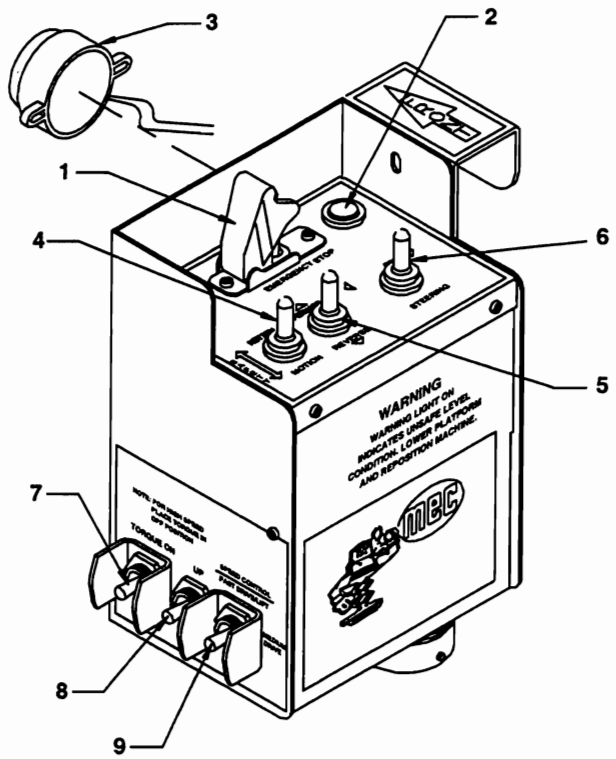

Figure 3-5. Standard Upper Control Box Assembly Controls and Indicators - 25E/33E Electric Units

2. Amber Warning Light	Light illuminates when an out-of-level condition exists.
3. Tip Warning Alarm	Alarm sounds when an out-of-level condition exists and platform is raised above ten feet. Refer to Chapter 1, Safety.
4. SAFETY Switch	Must be actuated and held in MOTION position when operating platform or driving unit. Switch will return to center or neutral position when released.
5. FORWARD/REVERSE Switch	Controls direction of movement. FORWARD position causes unit to move forward. REVERSE position causes the unit to move backwards. Switch will return to center or neutral position when released.
6. STEERING Switch	Controls steering angle of front wheels. Turns front steer wheels left in LEFT position and turns wheels right in RIGHT position. Switch will return to center or neutral position when released.
7. TORQUE ON/OFF Switch	ON position provides more power for driving. FAST DRIVE is available when TORQUE is ON. Normal power in OFF position.
8. UP/DOWN Switch	Controls movement of platform. UP position energizes hydraulic system to raise platform. DOWN position energizes hydraulic system to lower platform. Switch will return to center or neutral position when released.

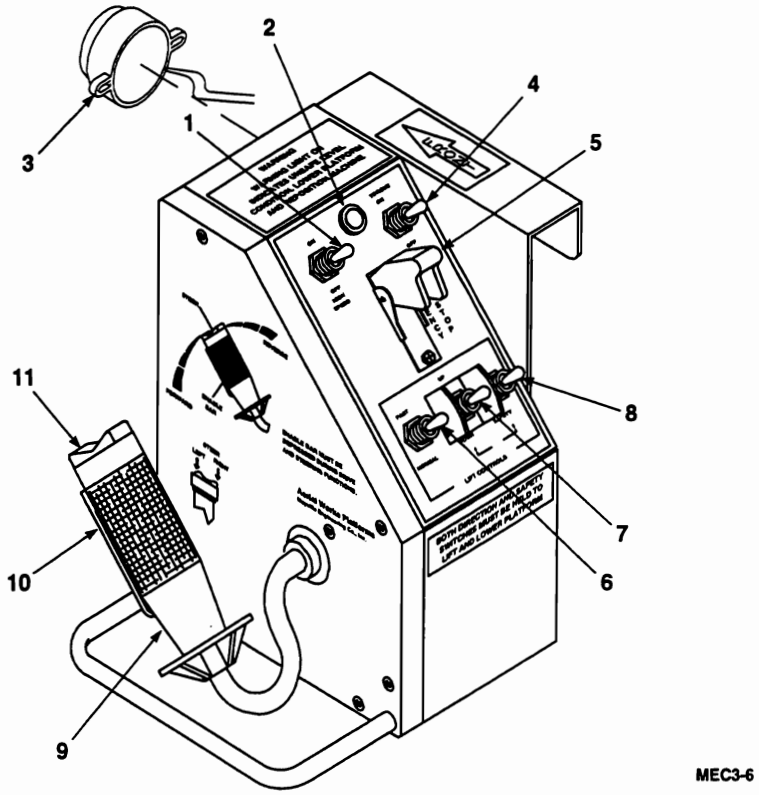

Figure 3-6. Optional Upper Control Box Assembly Controls and Indicators - 25E/33E Electric Units

9. SPEED CONTROL Switch — Provides multiple speeds for driving and lifting platform. Three driving speeds - FAST DRIVE, MEDIUM DRIVE and SLOW DRIVE - are available. Fast platform lift speed is attained by placing switch in FAST DRIVE (lift) position. Normal lift speed is attained by placing switch in MEDIUM DRIVE (lift) position or SLOW DRIVE (lift) position.

Upper Control Box Assembly Controls and Indicators - Optional (Figure 3-6)

This control box is located on the platform and is the primary station used during normal operation of the unit. This set of controls may be used while the operator is walking along side the unit or while the operator is on the platform. They are also used during performance of the daily walk-a-round checks.

1. HIGH SPEED ON/OFF Switch — High ground speed achieved at maximum movement of joystick in the FORWARD or REVERSE directions when switch placed in ON position. TORQUE ON/OFF switch must be in OFF position to obtain third speed.

2. Amber Warning Light — Illuminates if platform is not level and platform is being raised.

3. Tip Warning Alarm — Alarm sounds if platform is not level and platform is being raised.

4. TORQUE ON/OFF Switch — ON position provides more power for driving. HIGH SPEED is not available when TORQUE is ON. Normal power in OFF position.

5. EMERGENCY STOP Switch — Press cover which actuates switch. All electrical power is turned off and engine and hydraulic power is shut down. To reset switch, raise cover and move switch handle to opposite position.

6. FAST/NORMAL Switch	Provides fast speed for raising platform in the FAST position. In the NORMAL position, the normal speed is obtained.
7. UP/DOWN Switch	Controls movement of platform. UP position energizes hydraulic system to raise platform. DOWN position energizes hydraulic system to lower platform. Switch will return to center or neutral position when released.
8. SAFETY Switch	Must be actuated and held in MOTION position when raising or lowering platform. Switch will return to center or neutral position when released.
9. Joystick Control Handle	Controls direction of movement. FORWARD position causes unit to move forward. REVERSE position causes the unit to move backwards. Handle returns to center or neutral position when released.
10. Enable Bar	Must be pressed to activate control capabilities of the joystick. Has same functions as SAFETY switch.
11. STEER Switch	Controls steering angle of front wheels. Front wheels will turn left when LEFT side of rocker switch is pressed. Front wheels will turn right when RIGHT side of rocker switch is pressed. Switch will return to center or neutral position when released.

Battery Charger Assembly Controls and Indicators (Figure 3-7)

The battery charger controls and indicators are located in the face of the battery charger box assembly on the left side of the unit.

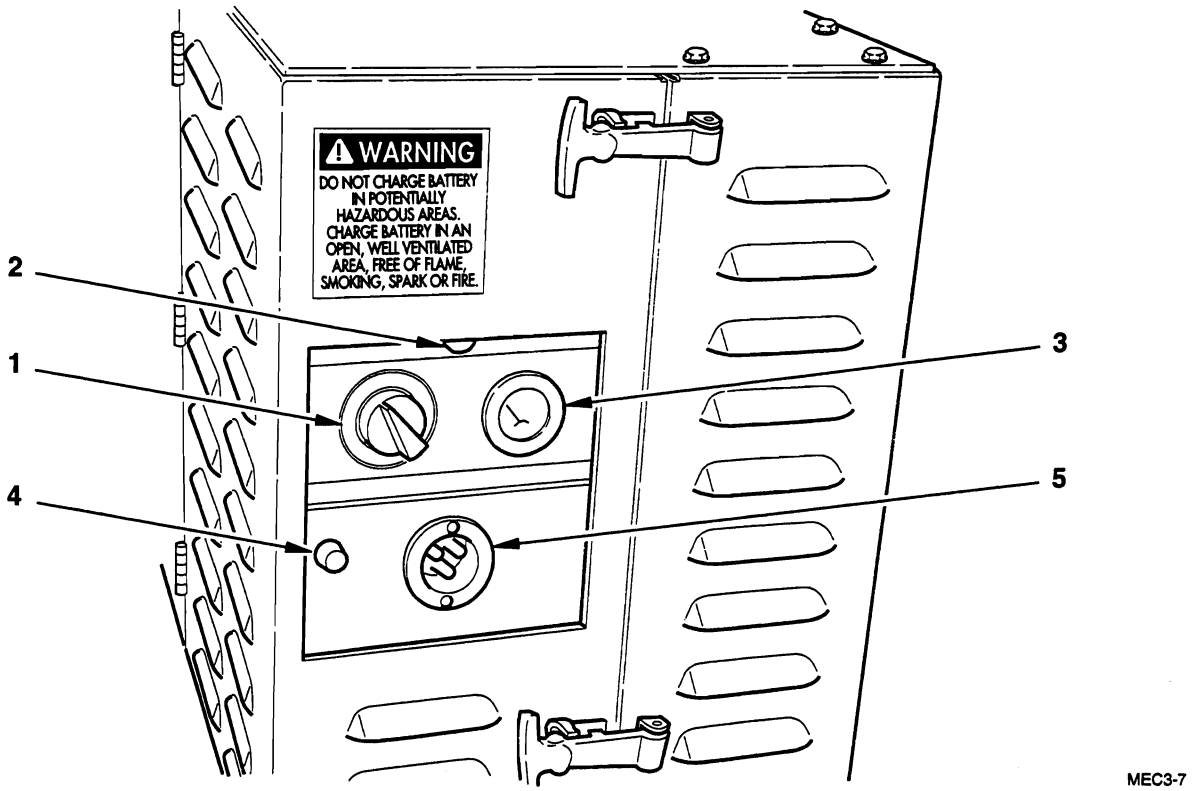

Figure 3-7. Battery Charger Assembly Controls and Indicators - 25E/33E Electric Units

1. Timer Switch	Controls amount of time during which charging of the batteries will take place. Settings range from 1 hour to 16 hours.
2. Pilot Light	Illuminates when timer switch is turned ON and stays until timer switch moves to OFF position.
3. Charge Rate Ampere Meter	Indicates the rate of charge to the batteries in amperes.
4. Fuse	Provides charging system protection from electrical shorts.
5. Charging Input Power Receptacle	Power cable from source of charging electricity connects at this point of input to the charger and batteries. Input must be 115 Volt, 60 Hertz, 1 Phase.

EQUIPMENT OPERATION - MODELS 25SRT AND 33SRT DUAL FUEL UNITS

WARNING

Before operating this machine, operator MUST carefully read Chapter 1, Safety, at the beginning of this manual, Failure to follow safety precautions may result in death or serious injury.

Starting Engine At Lower Control Panel

1. Raise EMERGENCY STOP switch (1, Figure 3-2) cover and move switch handle to left position on upper control box assembly.

2. Raise EMERGENCY STOP switch (1, Figure 3-1) cover and move switch handle to up position on lower control panel.

3. Turn ON/OFF key switch (3) to ON position.

NOTE

FUEL SELECTION switch on lower control panel must be in either the LPG or GAS position when starting engine. When changing from one fuel to another, place switch in the OFF position while the engine is running. When the engine starts to hesitate, switch to the alternate fuel position.

4. Place FUEL SELECTION switch (8) in desired position - GAS or LPG.

5. Place PLATFORM/BASE switch (7) to BASE position.

6. Place START/STOP switch (6) in START position and hold until engine begins running. Release switch.

Starting Engine At Upper Control Box Assembly

1. At the lower control panel, raise EMERGENCY STOP switch (1, Figure 3-1) cover and move switch handle to up position.

2. Turn ON/OFF key switch (3) to ON position.

NOTE

FUEL SELECTION switch on lower control panel must be in either the LPG or GAS position when starting engine. When changing from one fuel to another, place switch in the OFF position while the engine is running. When the engine starts to hesitate, switch to the alternate fuel position.

3. Place FUEL SELECTION switch (8) in desired position - GAS or LPG.

4. Place PLATFORM/BASE switch (7) to PLATFORM position.

5. At the upper control box assembly, raise EMERGENCY STOP switch (1, Figure 3-2) cover and move switch handle to left position.

NOTE

When starting dual fuel engine from upper control box assembly, LOW OIL light will come on and warning buzzer will sound. Once engine is running, LOW OIL light will go out and buzzer will stop after oil pressure is attained. If LOW OIL light stays on and buzzer continues to sound after engine starts, the engine will automatically shut off. Refer to Chapter 5, Troubleshooting.

6. Place OFF/RUN/START switch (2) in START position and hold until engine begins running. Release switch. LOW OIL light (3) will come on and warning buzzer will sound until proper engine oil pressure is attained.

Driving Unit Forward and Backward

NOTE
The machine will operate in slow speed drive when the platform is raised above approximately six feet.

1. Place SPEED CONTROL switch (12, Figure 3-2) in desired position - FAST DRIVE, MEDIUM DRIVE or SLOW DRIVE.

2. Place THROTTLE switch (9) in desired position - CONTINUOUS, IDLE or AUTOMATIC.

3. If ascending a grade and more power is needed, place TORQUE ON/OFF switch (10) in ON position. SPEED CONTROL switch (12) must be in MEDIUM DRIVE or SLOW DRIVE. FAST DRIVE is not available when using TORQUE ON/OFF switch.

4. Move and hold FORWARD/REVERSE switch (5) to FORWARD position to drive forward or to REVERSE position to drive backward. Releasing either the SAFETY switch (4) or the FORWARD/ REVERSE switch (5) will stop movement.

5. Move and hold SAFETY switch (4) in either of two MOTION positions. Quadrex will drive. Releasing either the FORWARD/REVERSE switch (5) or the SAFETY switch (4) will stop movement.

6. As needed, move STEERING switch (6) to LEFT position and hold to turn left or move STEERING switch to RIGHT position and hold to turn right. Move STEERING switch to opposite position to straighten wheels after a turn is completed. SAFETY switch (4) must be in MOTION position to obtain steering action. Steering while moving requires the FORWARD/REVERSE switch (5) to be activated also.

Operating Platform At Lower Control Panel

1. Place PLATFORM/BASE switch (7, Figure 3-1) to BASE position.

2. Move and hold UP/DOWN switch (2) to UP position to raise platform. To stop movement, release switch.

3. Move and hold UP/DOWN switch (2) to DOWN position to lower platform. To stop movement, release switch.

Operating Platform At Upper Control Box Assembly

1. Place SPEED CONTROL switch (12, Figure 3-2) in FAST DRIVE/LIFT position for Fast lift or in SLOW DRIVE (lift) or MEDIUM DRIVE (lift) for Normal lift.

2. Place THROTTLE switch (9) in desired position - CONTINUOUS, IDLE or AUTOMATIC.

3. Move and hold UP/DOWN switch (11) to UP position to raise platform or to DOWN position to lower platform. Releasing either the SAFETY switch (4) or the UP/DOWN switch (11) will stop movement.

5. Move and hold SAFETY switch (4) in either of two MOTION positions. Platform will move. Releasing either the UP/DOWN switch (11) or the SAFETY switch (4) will stop movement.

Generator Option Operation

Refer to GENERATOR MANUAL.

EQUIPMENT OPERATION - MODELS 25E AND 33E ELECTRIC UNITS

⚠ WARNING

Before operating this machine, operator MUST carefully read Chapter 1, Safety, at the beginning of this manual, Failure to follow safety precautions may result in death or serious injury.

Power Up At Lower Control Panel

1. Raise EMERGENCY STOP switch (1, Figure 3-5 or 5, Figure 3-6) cover and move switch handle to left position or up position on upper control box assembly.

2. Raise EMERGENCY STOP switch (2, Figure 3-4) cover and move switch handle to up position on lower control panel.

3. Turn ON/OFF key switch (4) to ON position.

Power Up At Upper Control Box Assembly

1. At the lower control panel, raise EMERGENCY STOP switch (2, Figure 3-4) cover and move switch handle to up position.

2. Turn ON/OFF key switch (4) to ON position.

3. At the upper control box assembly, raise EMERGENCY STOP switch (1, Figure 3-5 or 5, Figure 3-6) cover and move switch handle to left position or up position.

Driving Unit Forward and Backward At Standard Upper Control Box Assembly

NOTE
The machine will operate in slow speed drive when the platform is raised above approximately six feet.

1. Place SPEED CONTROL switch (9, Figure 3-5) in desired position - FAST DRIVE, MEDIUM DRIVE or SLOW DRIVE.

2. If ascending a grade and more power is needed, place TORQUE ON/OFF switch (7) in ON position. SPEED CONTROL switch (9) must be in MEDIUM DRIVE or SLOW DRIVE. FAST DRIVE is not available when using TORQUE ON/OFF switch.

3. Move and hold FORWARD/REVERSE switch (5) to FORWARD position to drive forward or to REVERSE position to drive backward. Releasing either the SAFETY switch (4) or the FORWARD/ REVERSE switch (5) will stop movement.

4. Move and hold SAFETY switch (4) in either of two MOTION positions. Quadrex will drive. Releasing either the FORWARD/REVERSE switch (5) or the SAFETY switch (4) will stop movement.

5. As needed, move STEERING switch (6) to LEFT position and hold to turn left or move STEERING switch to RIGHT position and hold to turn right. Move STEERING switch to opposite position to straighten wheels after a turn is completed. SAFETY switch (4) must be in MOTION position to obtain steering action. Steering while moving requires the FORWARD/REVERSE switch (5) to be activated also.

Driving Unit Forward and Backward At Optional (Joystick) Upper Control Box Assembly

NOTE
The machine will operate in slow speed drive when the platform is raised above approximately six feet.

1. Place HIGH SPEED ON/OFF switch (1, Figure 3-6) in ON position to obtain high speed. The TORQUE ON/OFF switch (4) must be in OFF position.

2. If ascending a grade and more power is needed, place TORQUE ON/OFFswitch (4) in ON position. HIGH SPEED drive is not available when TORQUE ON/OFF switch is in ON position.

3. Grasp joystick control grip (9) making sure enable bar (10) is depressed. Pivot joystick forward to move forward. Pivot joystick back to move backwards. Movement of joystick has three "steps" - slow speed, medium speed and high speed. Slow and medium speeds are always available. High speed is only available when HIGH SPEED ON/OFF switch (1) is in ON position and TORQUE ON/OFF switch (4) is in OFF position. Releasing the enable bar or joystick control grip will stop movement of unit.

4. As needed, depress and hold left side of STEER switch (11) to turn left or depress and hold right side of STEER switch to turn right. Wheels must be straightened after a turn by depressing STEER switch to opposite position. Wheels will not straighten by themselves after a turn is completed. Joystick enable bar must be depressed to obtain steering action. Steering may be performed while moving - joystick in a forward or reverse position.

Operating Platform At Lower Control Panel

1. Move and hold UP/DOWN switch (3, Figure 3-4) to UP position to raise platform. To stop movement, release switch.

2. Move and hold UP/DOWN switch (3) to DOWN position to lower platform. To stop movement, release switch.

Operating Platform At Standard Upper Control Box Assembly

1. Place SPEED CONTROL switch (9, Figure 3-5) in FAST DRIVE/LIFT position for Fast lift or in SLOW DRIVE (lift) or MEDIUM DRIVE (lift) for Normal lift.

2. Move and hold UP/DOWN switch (8) to UP position to raise platform or to DOWN position to lower platform. Releasing either the SAFETY switch (4) or the UP/DOWN switch (8) will stop movement.

3. Move and hold SAFETY switch (4) in either of two MOTION positions. Platform will move. Releasing either the UP/DOWN switch (8) or the SAFETY switch (4) will stop movement.

Operating Platform At Optional (Joystick) Upper Control Box Assembly

1. Place FAST/NORMAL switch (6, Figure 3-6) in desired position - FAST or NORMAL.

2. Move and hold UP/DOWN switch (7) to UP position to raise platform or to DOWN position to lower platform. Releasing either the SAFETY switch (8) or the UP/DOWN switch (7) will stop movement.

3. Move and hold SAFETY switch (8) in either of two SAFETY positions. Platform will move. Releasing either the UP/DOWN switch (7) or the SAFETY switch (8) will stop movement.

Batteries

⚠ WARNING

NEVER SMOKE OR USE OTHER COMBUSTIBLES NEAR BATTERY OR WHILE SERVICING BATTERY OR OTHER COMPONENTS. PROVIDE PLENTY OF VENTILATION AS PRESENCE OF HYDROGEN FUMES COULD LEAD TO EXPLOSION.

The Quadrex 25E/33E units are equipped with 8 heavy-duty, deep-cycle batteries. Battery care and maintenance depends upon the frequency of their use.

Battery wiring and water level should be checked daily. If unit is not used daily, check and fill batteries after every 15 hours of use or when recharging. Do not overfill batteries. Do not allow batteries to remain discharged. Do not run batteries dead. Put battery on charge when approximately 80% discharged. This is measured as a hydrometer reading of 1.500 at 80° F (26.6° C).

The following paragraphs contain notes and procedures for checking and filling batteries and charging batteries.

Checking and Filling Batteries

⚠ CAUTION

DO NOT OVERFILL. When battery cells are filled too full, battery fluid will expand as it warms from charging and will seep out of the battery. When water is then added, the solution is weakened and a loss of ampere hour capacity results.

NEVER add acid to battery. The solution is at its proper strength when the battery is manufactured. Use distilled water and maintain proper fluid level. When required, add water to battery AFTER charging, unless water level is below the top of the plates.

Check and fill batteries, after every 15 hours of use or when recharging, as follows:

1. Open battery tray cover.

2. If there is any dirt or corrosion on battery, wash with a solution of 5 teaspoons baking soda per quart of warm water.

3. Remove battery caps and check fluid.

4. Fill, as needed, as follows:

a. **Before** charging, fluid must be above plates in battery.

b. **After** charging, fill to split ring. **Do not overfill.**

5. Coat terminals with petroleum jelly or equivalent coating.

Charging Batteries

Surrounding temperature has a considerable effect on the power reserve in a battery.

A battery 100% charged at 80° F (26.6° C):
--drops to 65% at 32° F (0° C)
--drops to 40% at 0° F (-32°C)

A battery 46% charged at 80° F (26.6° C):
--drops to 32% at 31° F (-1° C)
--drops to 21% at 0° F (-32° C)

Whenever battery temperature reaches 125° F (93° C), the charging rate should be reduced or the battery taken off charge and cooled to room temperature.

Monthly equalizing charges of 25% over the regular charge are recommended. The equalizing charge must be delivered at a low rate to eliminate excessive gassing.

Bring batteries to a full charge as soon as possible after a period of continual use. A full charge is measured by a hydrometer reading of 1.265 at 80° F (26.6° C).

Lead plates in discharged batteries will harden and become sulfated, which will shorten battery life as much as overcharging. Sulfated batteries fail to deliver rated capacity or to fully charge.

Several long, slow charges (at a low rate to avoid gassing) and fast discharges are then necessary to correct the sulfation and hardened plates.

Do not overcharge battery as this causes the battery to boil dry.

⚠ WARNING

NEVER SMOKE OR USE OTHER COMBUSTIBLES NEAR BATTERY OR WHILE SERVICING BATTERY OR OTHER COMPONENTS. PROVIDE PLENTY OF VENTILATION AS PRESENCE OF HYDROGEN FUMES COULD LEAD TO EXPLOSION.

1. Open battery tray cover.

2. Remove battery caps, check fluid level and fill, if needed, to top of plates only.

3. Reinstall battery caps before charging.

4. Turn timer switch (1, Figure 3-7) to OFF position.

5. Connect AC cord to 115V AC receptacle.

6. Insert DC plug of power cord into charging input power receptacle (5).

7. Turn timer switch (1) to ON position for a 16 hour charging period or to a lesser amount of time as desired. Pilot light (2) will illuminate and charge rate ampere meter (3) will indicate a charge rate. Charger will turn off automatically when timer runs out.

8. When charging is complete, place timer switch (1) in OFF position and disconnect power cable from receptacle (5).

9. Remove battery caps, check that fluid level is up to split ring and reinstall caps.

EXTENDING OR RETRACTING OPTIONAL EXTENDED PLATFORM - SRT OR E MODELS

⚠ WARNING

Do not use extended platform without railings in place and lock pins completely engaged in lock channel holes.

1. Move lock lever (1, Figure 3-8) down to release lock pin (2) on each side of extended platform railing from lock channel.

2. Pull rail handle (3) out of handle clip (4) on each side of platform and rotate handle up to level.

3. Push or pull on both rail handles (3) to extend or retract platform to desired positon.

4. Make sure lock pin (2) is aligned with hole in lock channel (5) and pull lock lever (1) up to engage pin in channel. Be sure lock pin is fully engaged.

5. Rotate each rail handle (3) down and press into handle clip (4).

STOWING AND ERECTING PLATFORM RAILINGS - SRT OR E MODELS

NOTE

If your unit is equipped with the optional extended platform, perform all steps except step 6. If your unit is equipped with the standard railings, skip steps 1 thru 5 and begin with step 6.

1. Remove safety snap pins (1, Figure 3-9) from side railing and lock assembly.

2. Lift side railing so top railing support (2) clears other top rail and swing rear of side railing to the front.

3. Lift side railing off hinge brackets. Lay railing down on platform with extension handle toward front and hinge brackets down on floor.

4. Repeat preceding steps to remove other railing.

5. Pull top rail of front railing toward you and lay down on top of side railings.

6. Remove safety snap pins (1, Figure 3-10) from outside of front railing and pull top rail toward you and lay railing down on platform floor.

7. Remove safety snap pins (1, Figure 3-10) from outside of rear railing and pull top rail toward you and lay railing down on platform floor.

8. Pull up on both hinge locks (2) on vertical posts of side railing. Pull on top rail and lay railing down on top of other railings.

9. Reassemble railings by following the reverse order of this procedure. Make sure all safety snap pins, hinge locks and railing supports are securely engaged and/or locked in place.

10. Follow the reverse of this procedure to erect the platform railings.

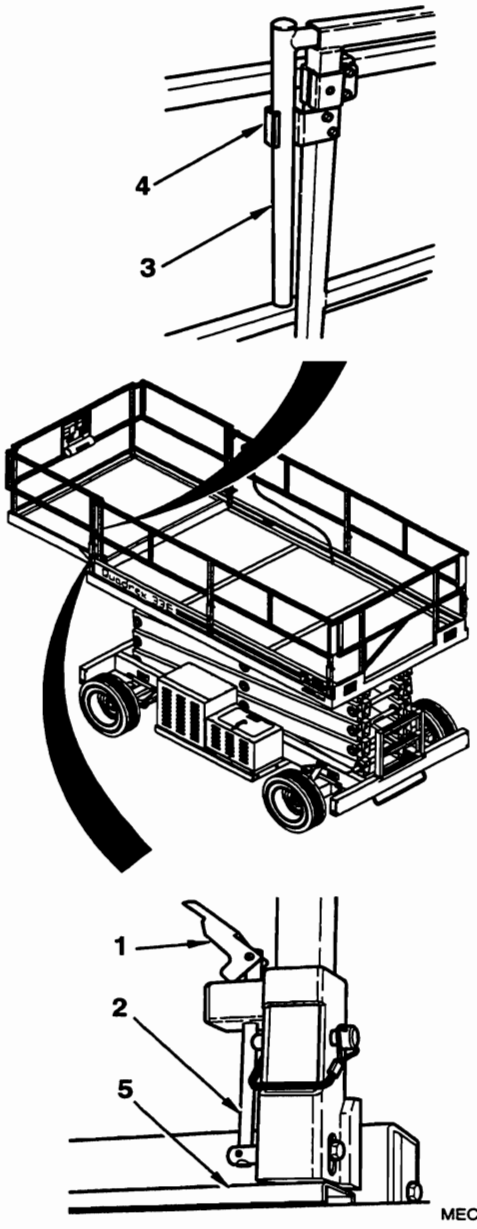

Figure 3-8. Extended Platform Lock Assemblies and Extension Handles

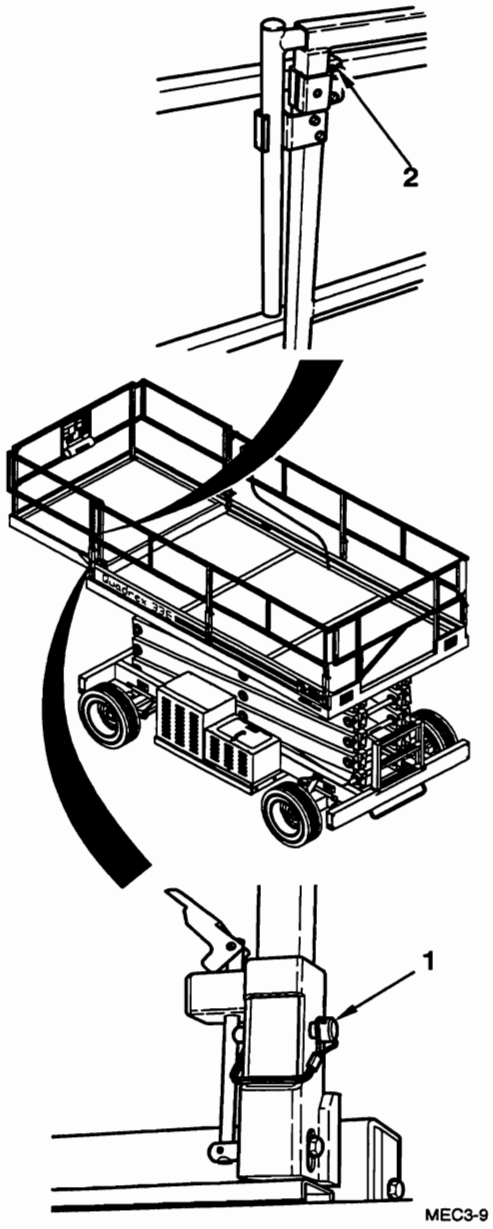

Figure 3-9. Safety Snap Pins and Railing Supports - Extended Platform

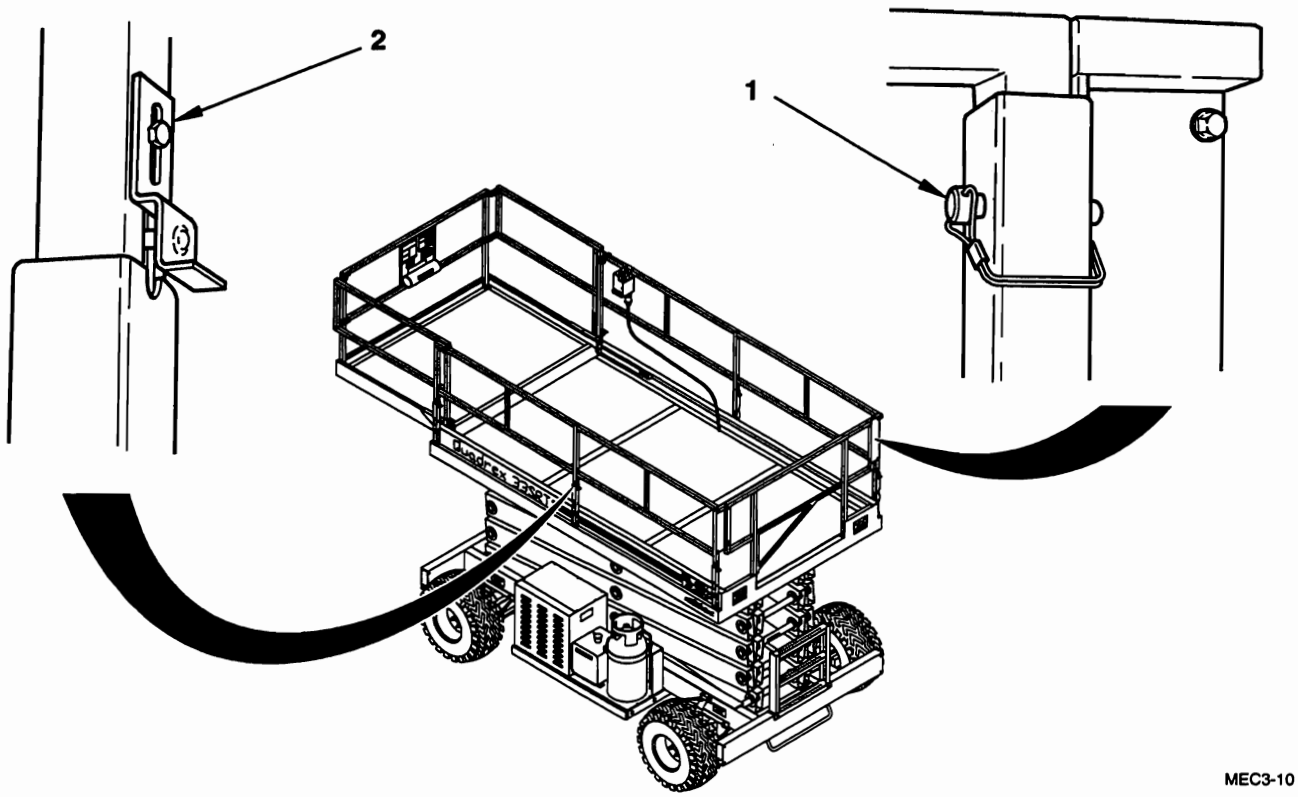

Figure 3-10. Safety Snap Pins and Hinge Locks - Standard Platform

CHAPTER 4
OPERATOR MAINTENANCE

This chapter contains information for the operator about the specific use of the equipment. Preventive maintenance information is presented first in the Walk-a-round Check for models 25SRT/33SRT and models 25E/33E aerial platform units. Next, a schedule of operator level maintenance tasks is presented followed by instructions for those operator tasks. Last, a schedule of maintenance activities, some of which should be performed by your dealer, is provided.

QUADREX MODELS 25SRT AND 33SRT DUAL FUEL AERIAL WORK PLATFORM WALK-A-ROUND INSPECTION

The Walk-a-round Check shall be performed by the operator prior to using the unit for the first time of the day or by a new operator even if the unit has been used during any part of the day. The Walk-a-round Check is critical to ensuring the safe operation of the platform.

When performing the Walk-a-round Check, visually inspect for obvious damage to the specific part of the unit including loose or missing fasteners; frayed, broken or leaking hydraulic lines; and worn, broken or frayed insulation on power cables. Also, check for bent structural members (beams, frame, platform, etc.). A machine which has been overloaded will have bent structural members and fatigued pivot pins. Begin the Check standing at the center of the rear of the unit. The number of the check in the listing matches a corresponding number in an illustration to help the operator understand and locate the check to be performed.

1. Capacity Decals on Rear of Platform (Figure 4-1) - Check that two decals are in place on rear edge of platform floor--one at each corner--and are intact and legible.
2. Maintenance Lock - Check lock for secure attachment to pivot pin collar and is not bent. Check receiver channels for damage. Check that decal is in place on side of pivot pin collar and is legible.
3. Broken Welds on Scissor Pivot Collars - Check for broken welds on scissors where each pivot pin collar is attached.

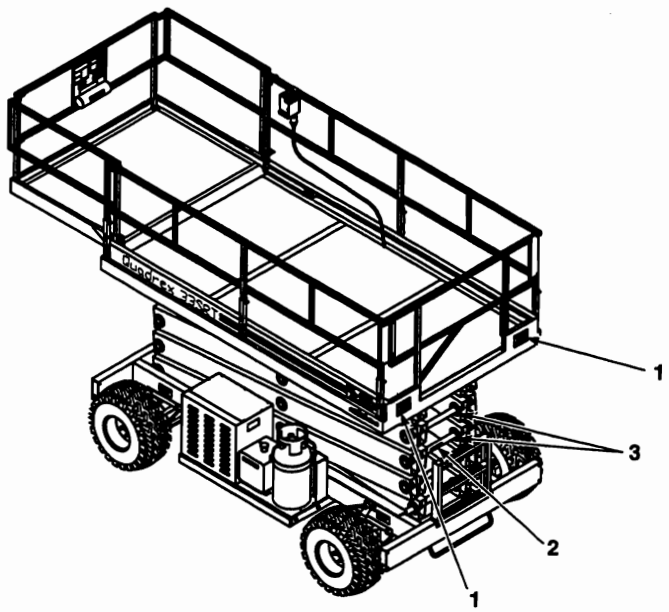

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Figure 4-1. 25SRT/33SRT Walk-a-round Checks 1 Thru 3

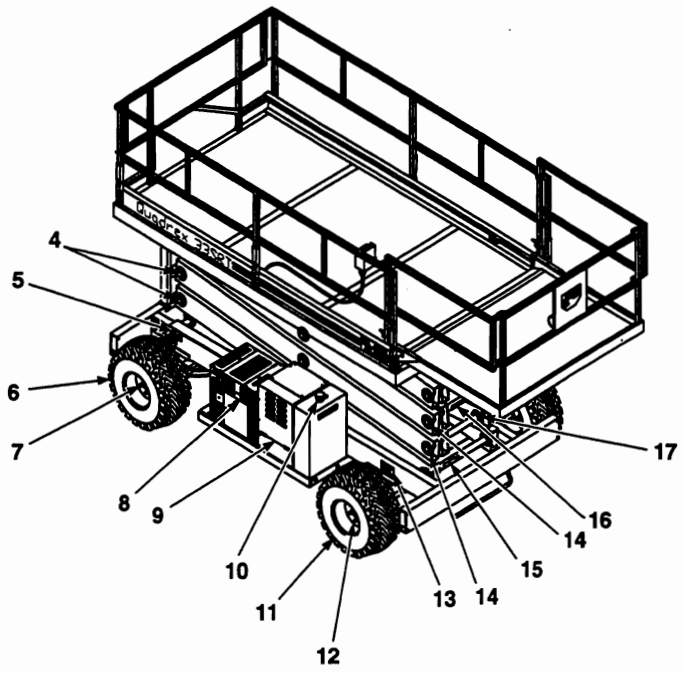

Figure 4-2. 25SRT/33SRT Walk-a-round Checks 4 Thru 17

4. Broken or Missing Retaining Rings on Scissor Pivot Pins (Figure 4-2) - Check for missing or broken retaining rings on exposed ends of pivot pins.
5. Tire Pressure Decal on Frame - Check that decal is in place on frame behind tire and is legible.
6. Tire Condition - Check tire inflation pressure is correct. Check for excessive wear and damage to tire.
7. Wheel Condition - Check wheel for bent rim and loose or missing lug nuts.
   Weekly - Torque nuts to 75-85 ft. lbs. (102-115 N·m).
8. Engine Oil Level - Oil level should be between L mark and F mark.
9. Battery Water Level - **Weekly** - Water should be up to the split ring. Use only distilled water.
10. Hydraulic Fluid Level - **Weekly** - Fluid level should be three inches below top of filler neck.
11. Tire Condition - Check tire inflation pressure is correct. Check for excessive wear and damage to tire.
12. Wheel Condition - Check wheel for bent rim and loose or missing lug nuts.
    Weekly - Torque nuts to 75-85 ft. lbs. (102-115 N·m).
13. Tire Pressure Decal on Frame - Check that decal is in place on frame behind tire and is legible.
14. Broken or Missing Retaining Rings on Scissor Pivot Pins - Check for missing or broken retaining rings on exposed ends of pivot pins.
15. Maintenance Lock - Check lock for secure attachment to pivot pin collar and is not bent. Check receiver channels for damage. Check that decal is in place on side of pivot pin collar and is legible.
16. Emergency Down Decal - Check that emergency down decal is in place on bottom pivot pin beside EMERGENCY DOWN control and is legible.
17. Broken Welds on Scissor Pivot Collars - Check for broken welds on scissors where each pivot pin collar is attached.

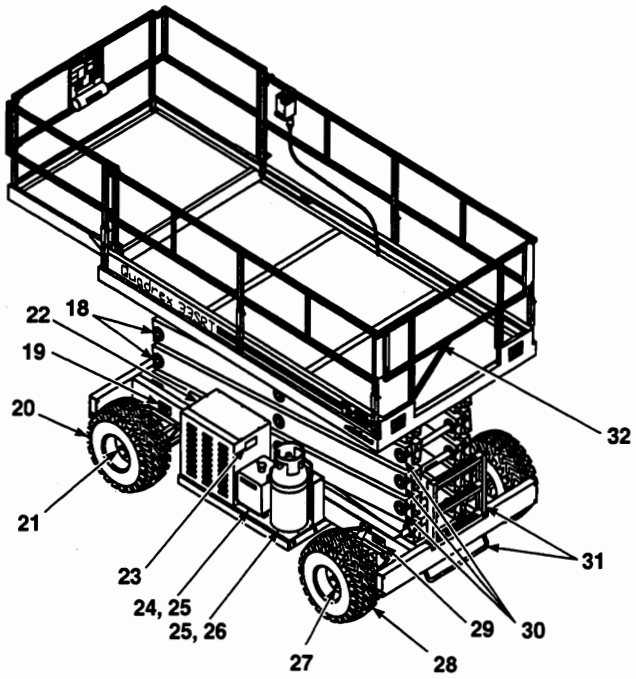

Figure 4-3. 25SRT/33SRT Walk-a-round Checks 18 Thru 32

18. Broken or Missing Retaining Rings on Scissor Pivot Pins (Figure 4-3) - Check for missing or broken retaining rings on exposed ends of pivot pins.
19. Tire Pressure Decal on Frame - Check that decal is in place on frame behind tire and is legible.
20. Tire Condition - Check tire inflation pressure is correct. Check for excessive wear and damage to tire.
21. Wheel Condition - Check wheel for bent rim and loose or missing lug nuts.
    Weekly - Torque nuts to 75-85 ft. lbs. (102-115 N·m).
22. Lower Control Panel - Check for obvious damage to switches, indicators and guards. Check that three decals are in place on the control box and are legible.
23. LPG Warning Decal - Check that decal is in place on cabinet next to gasoline tank and is legible.
24. Gasoline Tank Fuel Level - Gasoline should be just below filler neck.
25. Fuel Leaks - Check for any visible or audible fuel leaks. Check for LPG smell below tank.
26. LPG Tank Fuel Level - Gage should indicate a level appropriate for task(s) to be performed.
27. Wheel Condition - Check wheel for bent rim and loose or missing lug nuts.
    Weekly - Torque nuts to 75-85 ft. lbs. (102-115 N·m).
28. Tire Condition - Check tire inflation pressure is correct. Check for excessive wear and damage to tire.
29. Tire Pressure Decal on Frame - Check that decal is in place on frame behind tire and is legible.
30. Broken or Missing Retaining Rings on Scissor Pivot Pins - Check for missing or broken retaining rings on exposed ends of pivot pins.
31. Rear Steps - Check rear steps on bumper for obvious damage and loose or missing fasteners. Check bottom step for security and broken welds.
32. Rear Gate - Check rear gate for loose or missing fasteners and obvious damage. Check that latch is secure and operates properly.

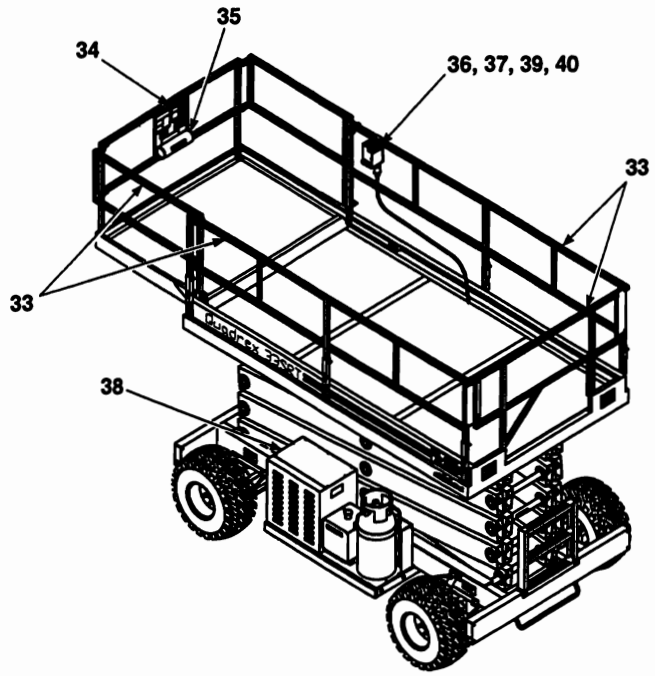

Figure 4-4. 25SRT/33SRT Walk-a-round Checks 33 Thru 40

Mount platform.

33. Platform Railings (Figure 4-4) - Check all railings for secure and proper installation and obvious damage. Check that top rail is not bent to a height of less than 39 inches.
34. Decals on Panel on Front Rail - Check that four decals are in place on panel of front platform railing and all four are intact and legible.
35. Manual Tube - Check that all manuals are in tube on front railing.
36. Upper Control Box Assembly - Check for obvious damage to switches, indicators and guards. Check that four decals are in place on the control box and are legible.
37. Raise EMERGENCY STOP cover and place switch to left position.

Dismount from platform.

38. Check Operation of EMERGENCY DOWN control using lower control panel:
    a. Turn key switch 90 degrees to right.
    b. Raise EMERGENCY STOP switch cover and place switch in up or top position.
    c. Place PLATFORM/BASE switch to BASE position.
    d. Place FUEL SELECTION switch to GAS or LPG position as desired.
    e. Place START/STOP switch in START position and hold until engine starts.
    f. Place UP/DOWN switch in UP position and hold to raise platform 10 to 15 feet above you. Release switch.
    g. Pull EMERGENCY DOWN control out and hold. Platform should lower all the way.

h. Press EMERGENCY STOP - unit shuts down quickly and completely.

i. Raise EMERGENCY STOP switch cover and place switch in up or top position.

j. Place PLATFORM/BASE switch to PLATFORM position.

Mount Platform.

39. Test upper control box assembly controls and indicators:

a. Steer left and right.

b. Drive forward/reverse in slow, medium and fast with torque off.

c. Operate brakes on a grade.

e. Drive forward/reverse in slow and medium with torque on.

f. Check fast drive speed cutout when platform is raised.

⚠ WARNING

ALL PIVOT AREAS OF SCISSORS AND LIFT CYLINDER MUST BE CHECKED FOR WEAR. A LOUD SCRAPING NOISE MEANS THE D.U. BEARINGS ARE DAMAGED AND NEED REPLACING. FAILURE TO DO SO WILL RESULT IN EXTENSIVE DAMAGE TO STRUCTURAL MEMBERS AND BUSHINGS WHICH WOULD CREATE A HAZARDOUS CONDITION AND COULD RESULT IN INJURY OR DEATH TO PERSONNEL.

g. Raise platform to full extension using slow and fast speeds.

h. Lower platform to full compression.

i. Emergency stop working properly (unit shuts down quickly and completely).

40. Raise EMERGENCY STOP switch cover and place switch in left position.

QUADREX MODELS 25E AND 33E ELECTRIC AERIAL WORK PLATFORM WALK-A-ROUND INSPECTION

The Walk-a-round Check shall be performed by the operator prior to using the unit for the first time of the day or by a new operator even if the unit has been used during any part of the day. The Walk-a-round Check is critical to ensuring the safe operation of the platform.

When performing the Walk-a-round Check, visually inspect for obvious damage to the specific part of the unit including loose or missing fasteners; frayed, broken or leaking hydraulic lines; and worn, broken or frayed insulation on power cables. Also, check for bent structural members (beams, frame, platform, etc.). A machine which has been overloaded will have bent structural members and fatigued pivot pins. Begin the Check standing at the center of the rear of the unit. The number of the check in the listing matches a corresponding number in an illustration to help the operator understand and locate the check to be performed.

1. Capacity Decals on Rear of Platform (Figure 4-5) - Check that two decals are in place on rear edge of platform floor--one at each corner--and are intact and legible.
2. Maintenance Lock - Check lock for secure attachment to pivot pin collar and is not bent. Check receiver channels for damage. Check that decal is in place on side of pivot pin collar and is legible.

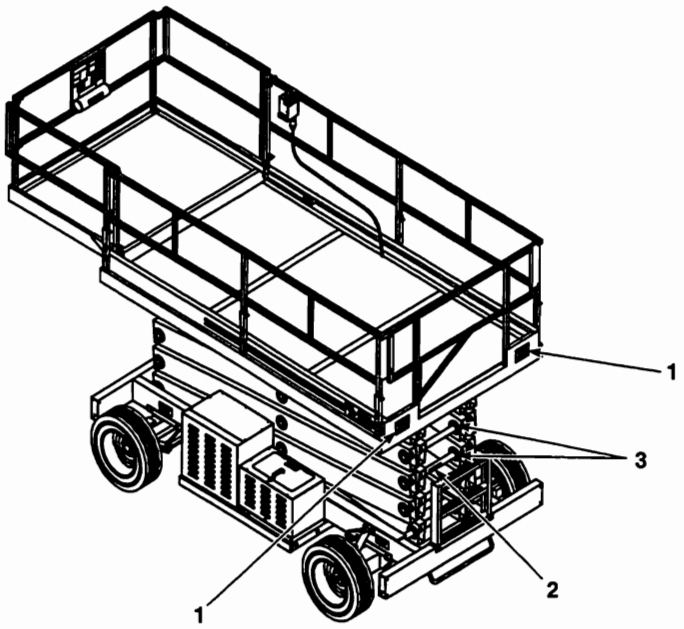

Figure 4-5. 25E/33E Walk-a-round Checks 1 Thru 3

3. Broken Welds on Scissor Pivot Collars - Check for broken welds on scissors where each pivot pin collar is attached.
4. Broken or Missing Retaining Rings on Scissor Pivot Pins (Figure 4-6) - Check for missing or broken retaining rings on exposed ends of pivot pins.
5. Tire Pressure Decal on Frame - Check that decal is in place on frame behind tire and is legible.
6. Tire Condition - Check tire inflation pressure is correct. Check for excessive wear and damage to tire.
7. Wheel Condition - Check wheel for bent rim and loose or missing lug nuts.
   Weekly - Torque nuts to 75-85 ft. lbs. (102-115 N·m).
8. Battery Water Level - **Weekly** - Water should be up to the split ring in each cell.
9. Battery Disconnect Decal - Decal in place on battery tray cover and legible.
10. Hydraulic Fluid Level - **Weekly** - Fluid level should be three inches below top of filler neck.
11. Battery Charger Label - Label in place on battery charger door and legible.
12. Wheel Condition - Check wheel for bent rim and loose or missing lug nuts.
    Weekly - Torque nuts to 75-85 ft. lbs. (102-115 N·m).
13. Tire Condition - Check tire inflation pressure is correct. Check for excessive wear and damage to tire.
14. Tire Pressure Decal on Frame - Check that decal is in place on frame behind tire and is legible.
15. Broken or Missing Retaining Rings on Scissor Pivot Pins - Check for missing or broken retaining rings on exposed ends of pivot pins.
16. Emergency Down Decal - Check that emergency down decal is in place on bottom pivot pin beside EMERGENCY DOWN control and is legible.
17. Broken Welds on Scissor Pivot Collars - Check for broken welds on scissors where each pivot pin collar is attached.

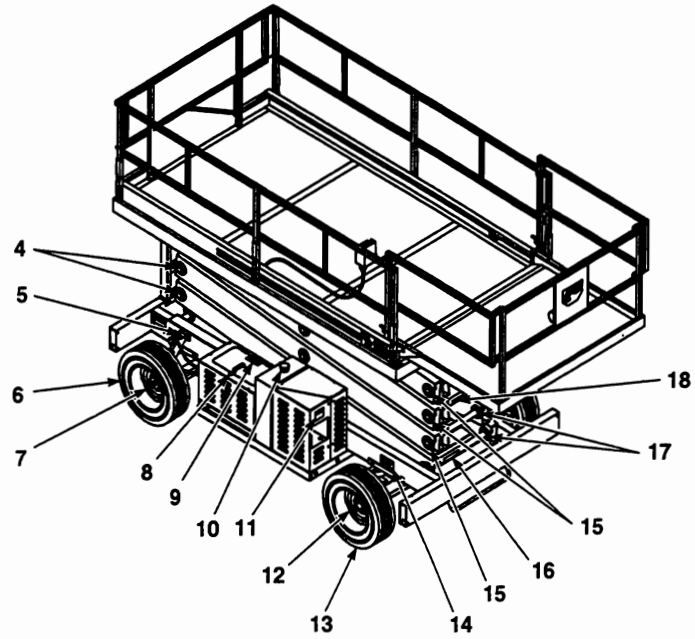

Figure 4-6. 25E/33E Walk-a-round Checks 4 Thru 18

18. Maintenance Lock - Check lock for secure attachment to pivot pin collar and is not bent. Check receiver channels for damage. Check that decal is in place on side of pivot pin collar and is legible.
19. Broken or Missing Retaining Rings on Scissor Pivot Pins (Figure 4-7) - Check for missing or broken retaining rings on exposed ends of pivot pins.
20. Tire Pressure Decal on Frame - Check that decal is in place on frame behind tire and is legible.
21. Tire Condition - Check tire inflation pressure is correct. Check for excessive wear and damage to tire.
22. Wheel Condition - Check wheel for bent rim and loose or missing lug nuts.
    Weekly - Torque nuts to 75-85 ft. lbs. (102-115 N·m).
23. Lower Control Panel - Check for obvious damage to switches, indicators and guards. Check that decal is in place on the control box and is legible.
24. Battery Water Level - Water should be up to the split ring in each cell.
25. Battery Disconnect Decal - Decal in place on battery tray cover and is legible.
26. Tire Condition - Check tire inflation pressure is correct. Check for excessive wear and damage to tire.
27. Wheel Condition - Check wheel for bent rim and loose or missing lug nuts.
    Weekly - Torque nuts to 75-85 ft. lbs. (102-115 N·m).
28. Tire Pressure Decal on Frame - Check that decal is in place on frame behind tire and is legible.
29. Broken or Missing Retaining Rings on Scissor Pivot Pins - Check for missing or broken retaining rings on exposed ends of pivot pins.
30. Rear Steps - Check rear steps on bumper for obvious damage and loose or missing fasteners. Check bottom step for security and broken welds.
31. Rear Gate - Check rear gate for loose or missing fasteners and obvious damage. Check that latch is secure and operates properly.

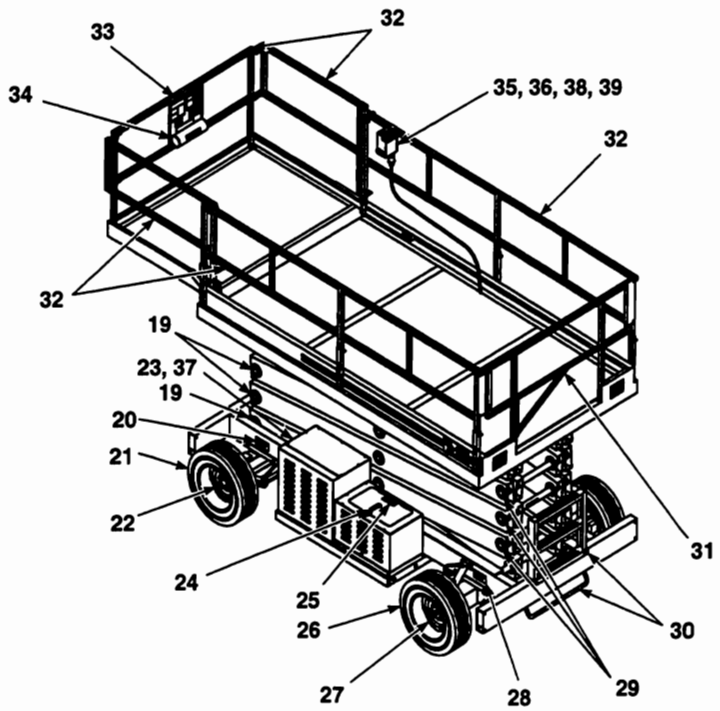

Figure 4-7. 25E/33E Walk-a-round Checks 19 Thru 39

Mount platform.

32. Platform Railings - Check all railings for secure and proper installation and obvious damage. Check that top rail is not bent to a height of less than 39 inches.
33. Decals on Panel on Front Rail - Check that four decals are in place on panel of front platform railing and all four are intact and legible.
34. Manuals Tube - Check that all manuals are in tube on front railing.
35. Upper Control Box Assembly - Check for obvious damage to switches, indicators and guards. Check that five decals are in place on the control box and are legible.
36. Raise EMERGENCY STOP cover and place switch to left position or up position.

Dismount from platform.

37. Check Operation of EMERGENCY DOWN control using lower control panel:
    a. Turn key switch 90 degrees to right.
    b. Raise EMERGENCY STOP switch cover and place switch in up or top position.
    c. Place UP/DOWN switch in UP position and hold until platform is 10 to 15 feet above you. Release switch.
    g. Pull EMERGENCY DOWN control out and hold. Platform should lower all the way.
    h. Press EMERGENCY STOP - unit shuts down quickly and completely.
    i. Raise EMERGENCY STOP switch cover and place switch in up or top position.

Mount Platform.

38. Test upper control box assembly controls and indicators:

    a. Steer left and right.

    b. Drive forward/reverse in slow, medium and fast with torque off.

    c. Operate brakes on a grade.

    d. Drive forward/reverse in slow and medium with torque on.

    e. Check fast drive speed cutout when platform is raised.

> **⚠ WARNING**
>
> **ALL PIVOT AREAS OF SCISSORS AND LIFT CYLINDER MUST BE CHECKED FOR WEAR. A LOUD SCRAPING NOISE MEANS THE D.U. BEARINGS ARE DAMAGED AND NEED REPLACING. FAILURE TO DO SO WILL RESULT IN EXTENSIVE DAMAGE TO STRUCTURAL MEMBERS AND BUSHINGS WHICH WOULD CREATE A HAZARDOUS CONDITION AND COULD RESULT IN INJURY OR DEATH TO PERSONNEL.**

    f. Raise platform to full extension using slow and fast speeds.

    g. Lower platform to full compression.

    h. Emergency stop working properly (unit shuts down quickly and completely).

39. Raise EMERGENCY STOP switch cover and place switch in left position or up position.

LUBRICATION

The Quadrex aerial work platform has a few items which must be lubricated and are identified in Table 4-1. The interval for performing the lubrication is also provided.

Table 4-1. Lubrication Chart

Item	Location/Action	Interval	Lubricant
Platform Rollers	2 under platform & 2 on top of platform	Monthly	Moly Lith 202 Multi-purpose Grease or equivalent
Cylinder Pins	2 on axle lock cylinder on LH side & 2 on axle lock cylinder on RH side	Monthly	Moly Lith 202 Multi-purpose Grease or equivalent
Engine Oil	SRT only - Drain and Refill	Every 25 hrs	Motor Oil
Engine Oil Filter	SRT only - Replace	Every 25 hrs	Motor Oil
Wheel Bearings	Clean and Repack	Annually	Wheel Bearing Grease
King Pin Bearings	Clean and Repack	Annually	Wheel Bearing Grease

MAINTENANCE SCHEDULE

The schedule of maintenance tasks for Quadrex models 25SRT/33SRT and 25E/33E aerial work platforms which can and should be performed by the operator are presented in Table 4-2. Where appropriate, the interval for performing each task is also provided.

Figure 4-2. Maintenance Schedule

Item	Action	Interval
Battery Terminal Connections	Clean & coat with grease	Monthly
Commutator and Brushes	Inspect	Annually
Hydraulic Oil Filter	Replace	Annually
Control System Terminal and Plugs	Inspect and repair	Every 6 months
Control System Cords	Inspect and repair or replace	Every 6 months

MAINTENANCE PROCEDURES

Cap Screw Replacement

Any cap screw replacement should be of same grade or greater than original. If any questions, call the factory for verification. Grade markings for cap screw grades 2, 5, and 8 (shown below) are based on SAE j429. Markings may be raised or depressed (manufacturer's option).

Grade 2 Grade 5 Grade 8

LPG Tank Changing

⚠ WARNING

FLAMMABLE LIQUIDS

Do not smoke or use other combustibles while changing LPG tanks. Do not change tanks near flames or sparks. Escaping fumes could cause explosion if ignited by flame or spark.

1. Close shutoff valve (1, Figure 4-8) on top of fuel tank.

2. Start engine on LPG and run until engine stops to purge fuel line.

3. Disconnect fuel hose fitting (2) from tank valve.

4. Release latch (3) on tank strap and remove tank (4).

NOTE

Replacement tank should contain fuel manufactured to Natural Gas Processors Association Specification HD-5.

5. Position new tank so that valve outlet aligns with fuel hose fitting (2).

6. Connect fuel hose fitting (2) to tank valve.

7. Close tank strap latch (3).

8. Open shutoff valve (1) and check for leaks. Repair leaks immediately.

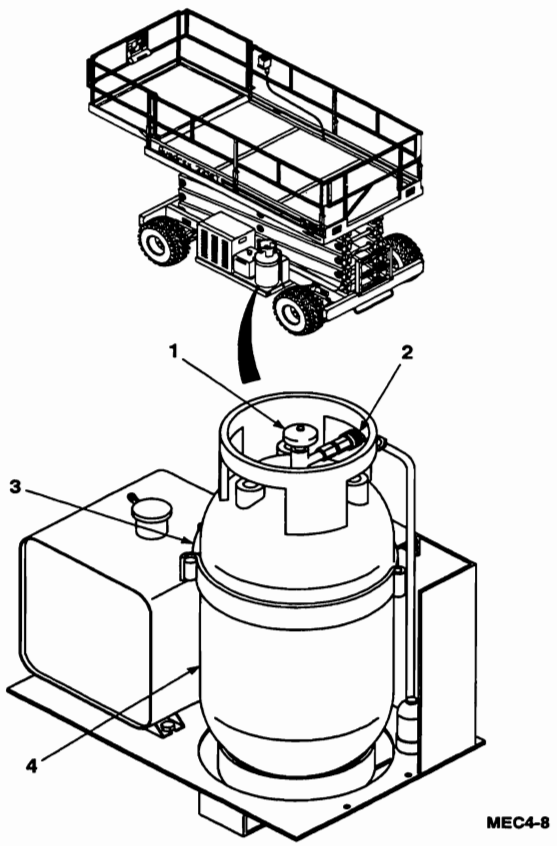

Figure 4-8. LPG Tank Changing

Replacing Batteries - Models 25E & 33E

⚠ WARNING

ELECTRIC SERIES MACHINES SPECIAL MAINTENANCE CONCERNS

To minimize the risk of fire, electric shock or explosion, the following maintenance procedures and inspections are particularly important for electrically powered machines:

1. Keep machine clear of lubricants and other combustible material.

2. Inspect wiring regularly for frayed or deteriorated insulation. Immediately replace or repair a wire harness, or individual wire, that has frayed or deteriorated insulation.

3. Check brakes at the recommended intervals, and make adjustments when required.

⚠ WARNING

NEVER SMOKE OR USE COMBUSTIBLES NEAR UNIT WHEN SERVICING BATTERIES. PROVIDE PLENTY OF VENTILATION. PRESENCE OF HYDROGEN FUMES COULD LEAD TO AN EXPLOSION!

1. Lower platform completely.

2. Disconnect BATTERY DISCONNECT halves (1, Figure 4-9) behind battery tray (2).

3. Remove mounting bolts (3) and battery tray top (4).

4. Tag and identify each cable or lead wire in battery tray to ensure proper connection to new batteries.

5. Remove terminal covers, loosen battery cable clamp bolts and remove clamps from battery posts.

6. Note orientation of each battery in battery tray.

7. Remove batteries from tray and install new batteries making sure battery posts are in proper positions.

8. Install battery cables to posts and tighten clamp screws.

9. Coat terminals with petroleum jelly or equivalent coating and install battery terminal covers

10. Connect BATTERY DISCONNECT halves (1).

11. Install battery tray top (4) and mounting bolts (3).

12. Check fluid level in each battery cell. As needed, add distilled water to raise level to split ring.

Hydraulic System Bleeding

The Quadrex hydraulic system is self-bleeding. After the system has been drained, such as during the replacement of a hydraulic system component, actuate the platform full up and down for six cycles and recheck the reservoir fluid level between each cycle. Fill to a point three inches below top of filler neck.

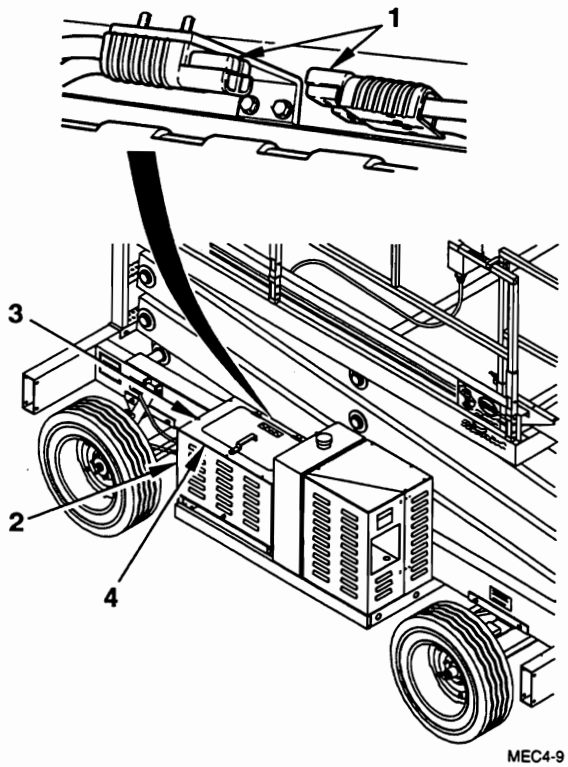

Figure 4-9. Battery Replacement

Hydraulic Oil Filter Replacement

The hydraulic oil filter in the hydraulic system should be changed each year. The filter is located inside the compartment directly adjacent to the hydraulic oil reservoir on each model machine. While holding a drain pan beneath the filter, simply unscrew the old filter and install a new one. Check oil level in reservoir and add oil as necessary to bring level to a point three inches below the filler neck.

Bleeding Axle Lock Hydraulic System

NOTE

A special tool is needed to perform this procedure. A drawing of tool with all pertinent information is provided in Figure 4-15. Also, a 5/8" dia. X 5-1/4" long bolt and matching nut and a 3/16" inside diameter X 12 feet long black rubber hose are needed.

1. Remove lock nut (1, Figure 4-10) and upper cylinder pin (2) and pull axle locking cylinder (3) out of brackets (4).

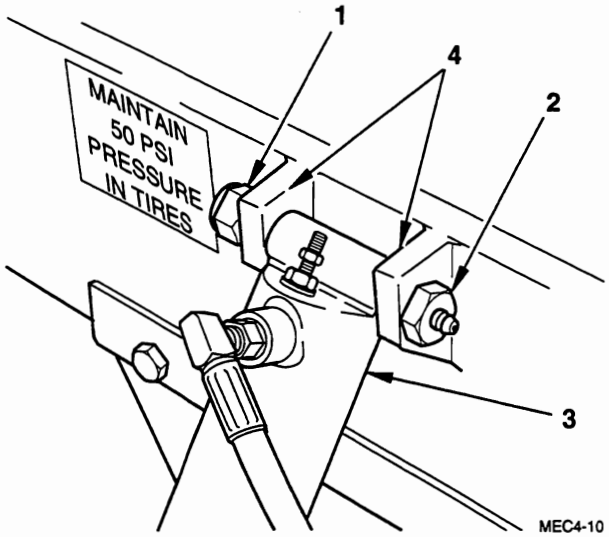

Figure 4-10. Axle Lock Parts

2. Insert bolt (1, Figure 4-11)(5/8" X 5-1/4") through bottom hole of tool and through brackets (2) and install a 5/8" nut (3). Do not overtighten nut - tool should pivot freely on pin.

3. Insert upper cylinder pin (4) through upper hole of tool and through upper end (5) of cylinder. Secure with lock nut (6). Do not overtighten lock nut - tool should pivot freely on bolt.

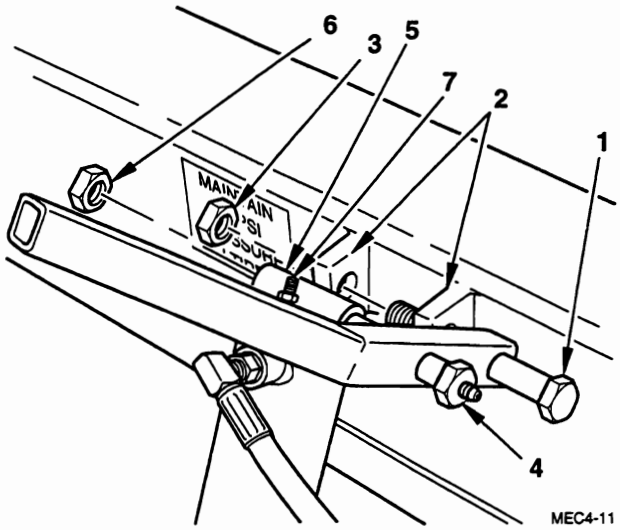

Figure 4-11. Bleed Tool Mounting

4. Identify, tag and disconnect lead wires (1, Figure 4-12) from drive function solenoid valve coils in bottom front of lower electrical cabinet.

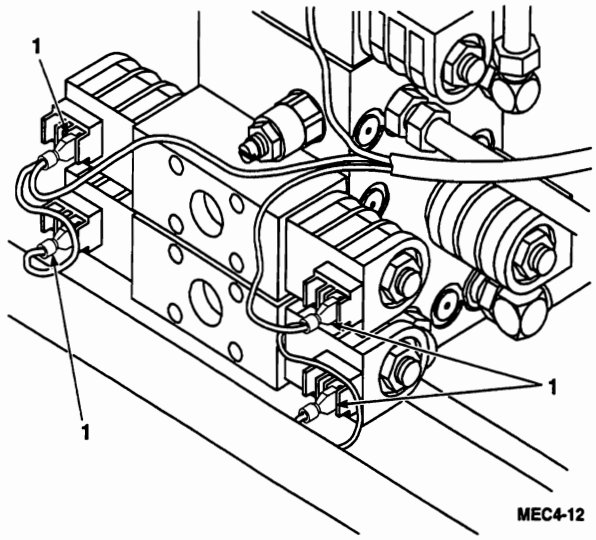

Figure 4-12. Drive Function Coil Wires

5. Install one end of a black rubber hose (3/16" inside dia. X 12 feet) into filler neck of hydraulic fluid tank. Install other end of hose on bleed valve (7, Figure 4-11) on top of cylinder. Open bleed valve.

6. Person A removes upper control box assembly from platform and prepares to drive unit forward while walking beside unit. Person A sets controls for slowest possible ground speed - SLOW SPEED, TORQUE switch to OFF, and THROTTLE CONTROL to IDLE.

7. While person A drives unit forward, person B pulls up on bleed tool and pushes down on bleed tool. Person B cycles lock cylinder up and down until all air is expelled and only oil comes out. Person B closes bleed valve. Person A releases control switches to stop unit.

8. Repeat this procedure to bleed other lock cylinder.

9. Remove hose from bleed valve (7) and raise to a height above hydraulic tank. Secure hose to platform and let fluid drain into hydraulic tank.

10. Connect lead wires (1, Figure 4-12) to solenoid valve coils and remove tags.

11. Align bolt hole in upper end (5, Figure 4-11) of lock cylinder as best as possible with holes in brackets (2) using bleed tool. Remove lock nut (6) and upper cylinder pin (4) from lock cylinder and bleed tool.

12. Remove nut (3) and bolt (1) from brackets (2) and bleed tool.

13. Place top of lock cylinder (3, Figure 4-10) between brackets (4) and install upper cylinder pin (2) and secure with lock nut (1).

Brake Adjustment

WARNING

THIS PROCEDURE REQUIRES THAT BRAKES BE INOPERABLE WHILE IN DRIVE MODE. ONLY PERFORM THIS PROCEDURE ON A LEVEL SURFACE WITH ENOUGH CLEARANCE IN FRONT OF MACHINE SO IT WILL ROLL TO A STOP OR WITH A BARRIER TO STOP THE UNIT.

1. Person A removes upper control box assembly from platform and prepares to drive unit forward while walking beside unit. Person A sets controls for slowest possible ground speed - SLOW SPEED, TORQUE switch to OFF, and THROTTLE CONTROL to IDLE.

2. When person A drives unit forward, person B pulls manual brake release ring (1, Figure 4-13) out to release brakes. Person A releases controls and lets unit coast to a stop.

3. Place chocks in front of and behind both front wheels.

4. Raise rear of machine enough that both tires and wheels are not touching floor.

NOTE

Both rear wheel brakes are independently applied. Both have to be adjusted at the same time.

5. Using a standard automotive brake adjustment tool, insert one end of tool in vertical slot (2) behind rear axle. Engage tool blade between stars and pry to turn star wheel.

5. Tighten star wheel until star wheel cannot be moved anymore. Then loosen star wheel 20 clicks or graduations of the star.

NOTE

The machine is designed to have the brake on whenever it is not being driven. Properly adjusted brakes should hold machine on an incline which it is capable of climbing.

6. Lower machine to floor, remove wheel chocks and drive unit to test brakes. Repeat procedure as necessary to obtain proper adjustment.

Gasoline Engine Service and Adjustment

Refer to ENGINE OWNER'S MANUAL.

OPTIONAL ELECTRIC GENERATOR MAINTENANCE PROCEDURES - MODELS 25SRT/33SRT

Generator Service and Adjustment

Refer to GENERATOR OPERATING MANUAL.

Belt Replacement

1. Remove bolts (1, Figure 4-14) and access cover (2).

2. Loosen nut and bolt that holds belt guide (3).

3. Remove old belt and place new belt on pulleys.

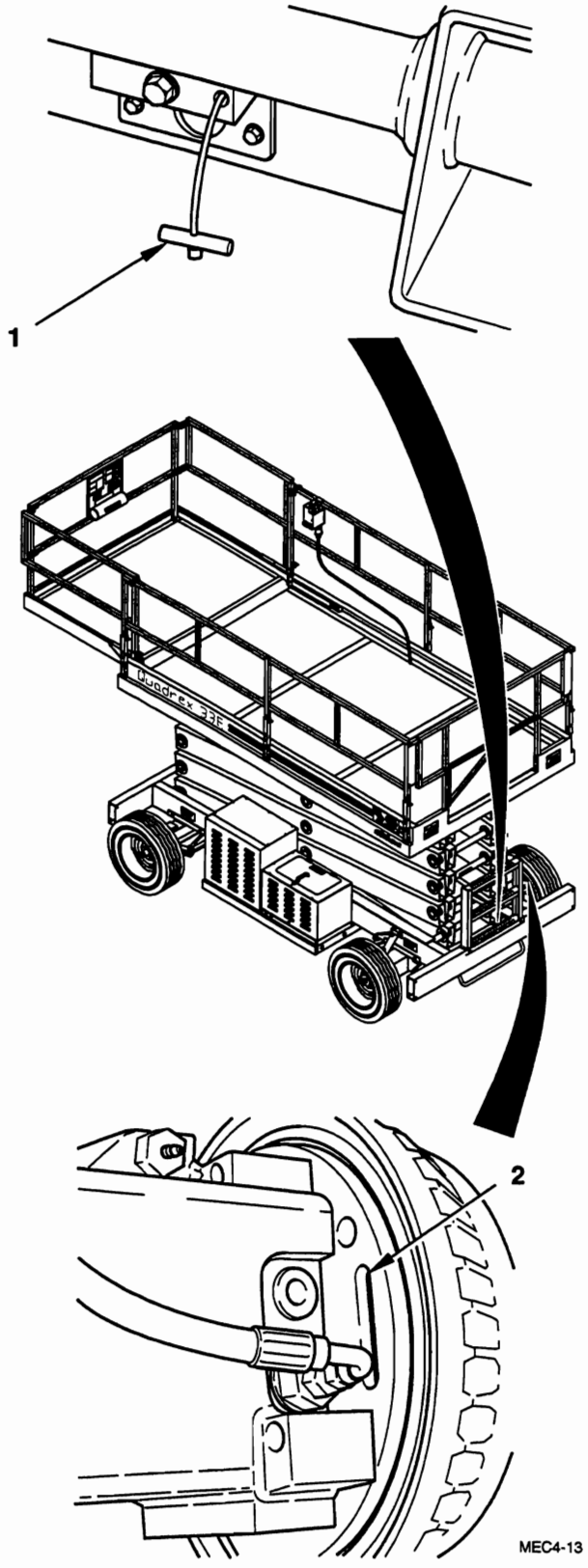

Figure 4-13. Brake Adjustment

4. Inspect pulley alignment. If necessary, align pulleys as follows:

   a. Loosen set screw on pulley(s) that is out of alignment.

   b. Slide pulley(s) on shaft until aligned with idler pulley.

   c. Tighten set screw(s).

5. Position belt guide (3) and tighten bolt and nut.

6. Install access cover (2) and bolts (1).

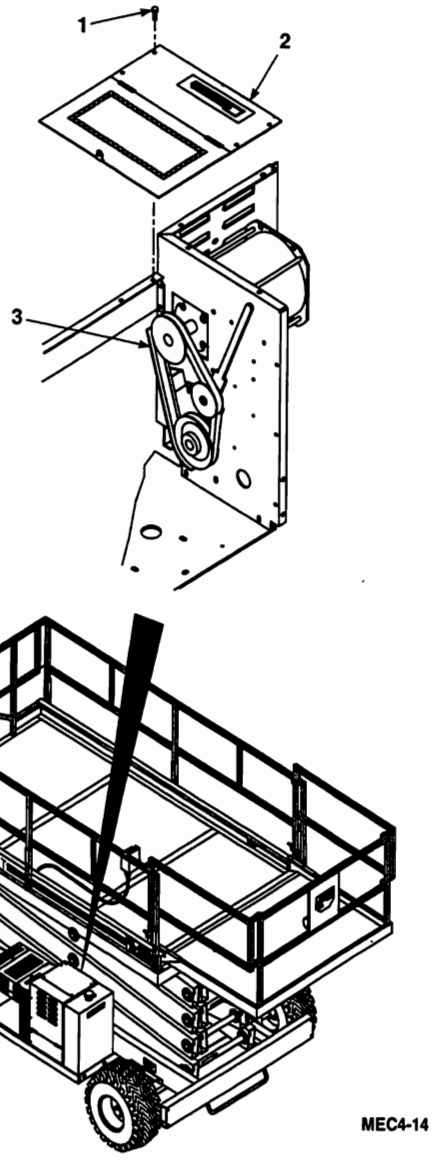

Figure 4-14. Generator Belt Replacement

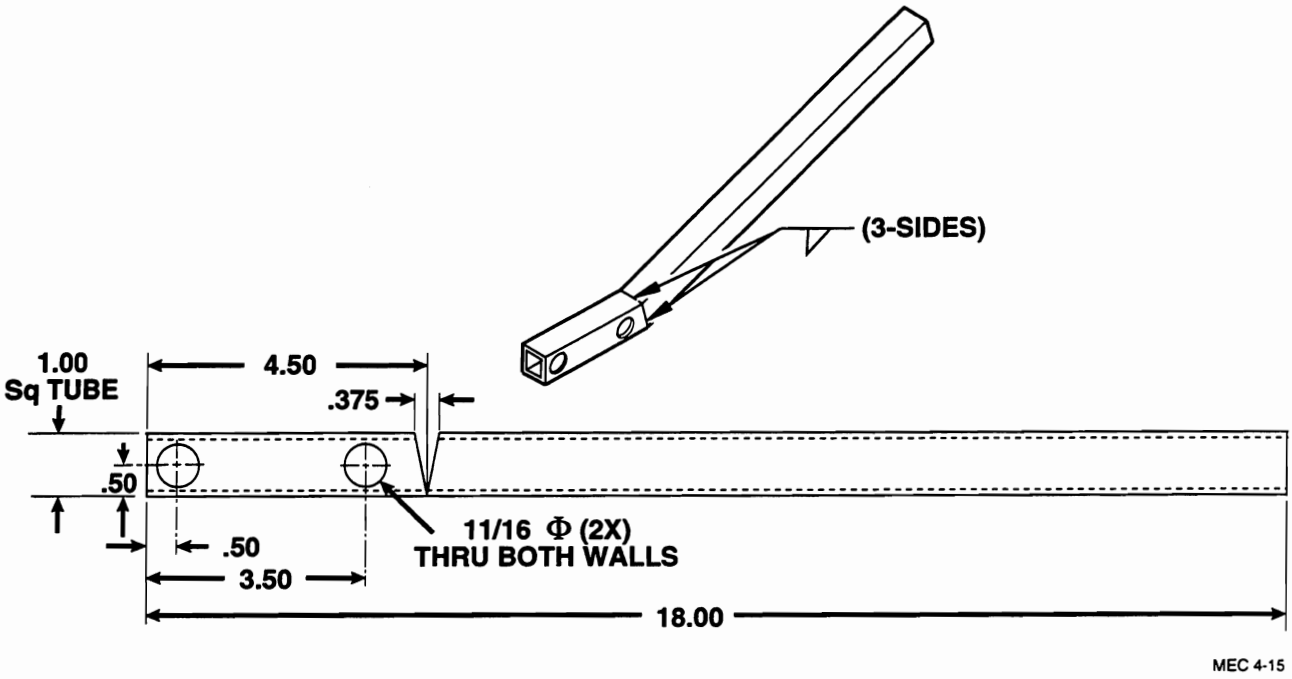

Figure 4-15. Axle Lock Cylinder Bleed Tool

CHAPTER 5
TROUBLESHOOTING

The troubleshooting data presented is directed toward the operator and deals with those items or situations which can be encountered by an operator and the determination of a remedy to the condition is within the capability of the operator. The troubleshooting sequence in the table is presented in a logical order beginning with the most likely and ending with the least likely.

TROUBLESHOOTING TABLE

Condition	Possible Cause	Remedy
	MODELS 25SRT/33SRT	
No functions at lower control panel.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
	Engine not running.	Start engine.
No functions at upper control box assembly.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
	Engine not running.	Start engine.
Platform will not lift using lower control panel.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
	Engine not running.	Start engine.

TROUBLESHOOTING TABLE - Continued

Condition	Possible Cause	Remedy
	MODELS 25SRT/33SRT-Continued	
Platform will not lift using upper control box assembly.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
	SAFETY switch not being held in MOTION position.	Place and hold SAFETY switch in MOTION position and, at the same time, place and hold UP/ DOWN switch in UP position to raise platform.
	Engine not running.	Start engine.
Machine will not drive.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
	SAFETY switch not being held in MOTION position.	Place and hold SAFETY switch in MOTION position and, at the same time, place and hold FORWARD/REVERSE switch in FORWARD or REVERSE position to drive machine.
	Engine not running.	Start engine.
Machine will not steer.	SAFETY switch not being held in MOTION position.	Place and hold SAFETY switch in MOTION position and, at the same time, place and hold FORWARD/REVERSE switch in FORWARD or REVERSE position to drive machine.
	Engine not running.	Start engine.

TROUBLESHOOTING TABLE - Continued

Condition	Possible Cause	Remedy
	MODELS 25SRT/33SRT-Continued	
High engine speed not available at upper control box assembly.	PLATFORM/BASE switch on lower control panel in BASE position.	Place PLATFORM/BASE switch in PLATFORM position.
Engine will not run.	FUEL SELECTION switch in OFF position.	Place FUEL SELECTION switch in GAS or LPG position.
	Fuel shutoff valve on LPG tank closed.	Open fuel shutoff valve on LPG tank.
	Fuel tank(s) is empty.	Fill gasoline tank or install full LPG fuel tank.
Note: Refer to engine Owner's Manual for more troubleshooting information.		
	MODELS 25E/33E	
No functions at lower control panel.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
No functions at upper control box assembly.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped".	Reset circuit breaker.
Platform will not lift using lower control panel.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.

TROUBLESHOOTING TABLE - Continued

Condition	Possible Cause	Remedy
	MODELS 25E/33E - Continued	
Platform will not lift using lower control panel. - Continued	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
Platform will not lift using upper control box assembly.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
	SAFETY switch not being held in MOTION position.	Place and hold SAFETY switch in MOTION position and, at the same time, place and hold UP/ DOWN switch in UP position to raise platform.
Machine will not drive.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
	SAFETY switch not being held in MOTION position.	Place and hold SAFETY switch in MOTION position and, at the same time, place and hold FORWARD/REVERSE switch in FORWARD or REVERSE position to drive machine.
Machine will not steer.	SAFETY switch not being held in MOTION position.	Place and hold SAFETY switch in MOTION position and, at the same time, place and hold FORWARD/REVERSE switch in FORWARD or REVERSE position to drive machine.

TROUBLESHOOTING TABLE - Continued

Condition	Possible Cause	Remedy
	MODELS 25E/33E - Continued	
Electric motors will not run.	EMERGENCY STOP switch on lower control panel or upper control box assembly is activated.	Raise cover and move switch handle to hinge side of switch cover.
	Key switch on lower control panel in OFF position.	Place key switch in ON position.
	Circuit breaker on lower control panel is "tripped."	Reset circuit breaker.
	Batteries not charged.	Charge batteries.
Battery charger not operating.	Power supply cable not connected to 115V receptacle and battery charger receptacle.	Connect power supply cable input end to 115V receptacle and output end to battery charger receptacle.
	Timer switch not on.	Turn timer switch on to desired position but at least to one hour setting.
	Fuse in battery charger blown.	Replace fuse.
	Battery cables loose or not connected at posts.	Clean and check all battery cable connections. Check Battery Disconnect connections behind battery tray boxes.
	Battery charger pilot light burned out.	Replace pilot light.
Battery charger pilot light on; charge rate ampere meter reads zero.	Batteries are fully charged.	Check optional Battery Charge Indicator or check specific gravity of battery.
	Charge rate ampere meter has failed.	Replace ampere meter.

SCHEMATICS, LAYOUTS AND DIAGRAMS

Electrical schematics, harness layouts, cabling layouts, and hydraulic schematic diagrams are furnished to help a well-trained millwright or maintenance person diagnose an undesired condition.

Figure 5-1. Quadrex 25SRT/33SRT Dual Fuel Electrical Schematic

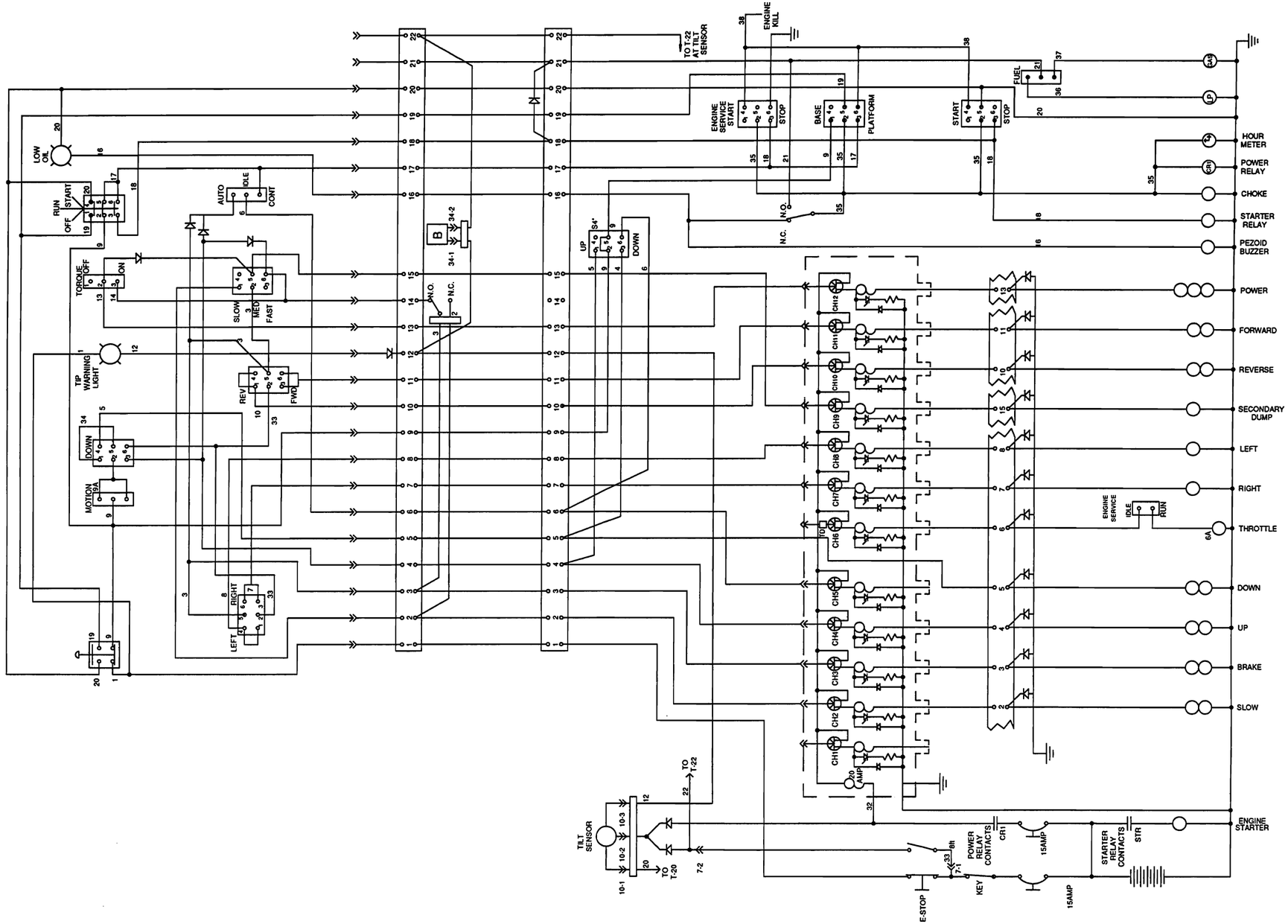

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Figure 5-2. Quadrex 25E/33E Electrical Schematic - Standard Upper Control Box

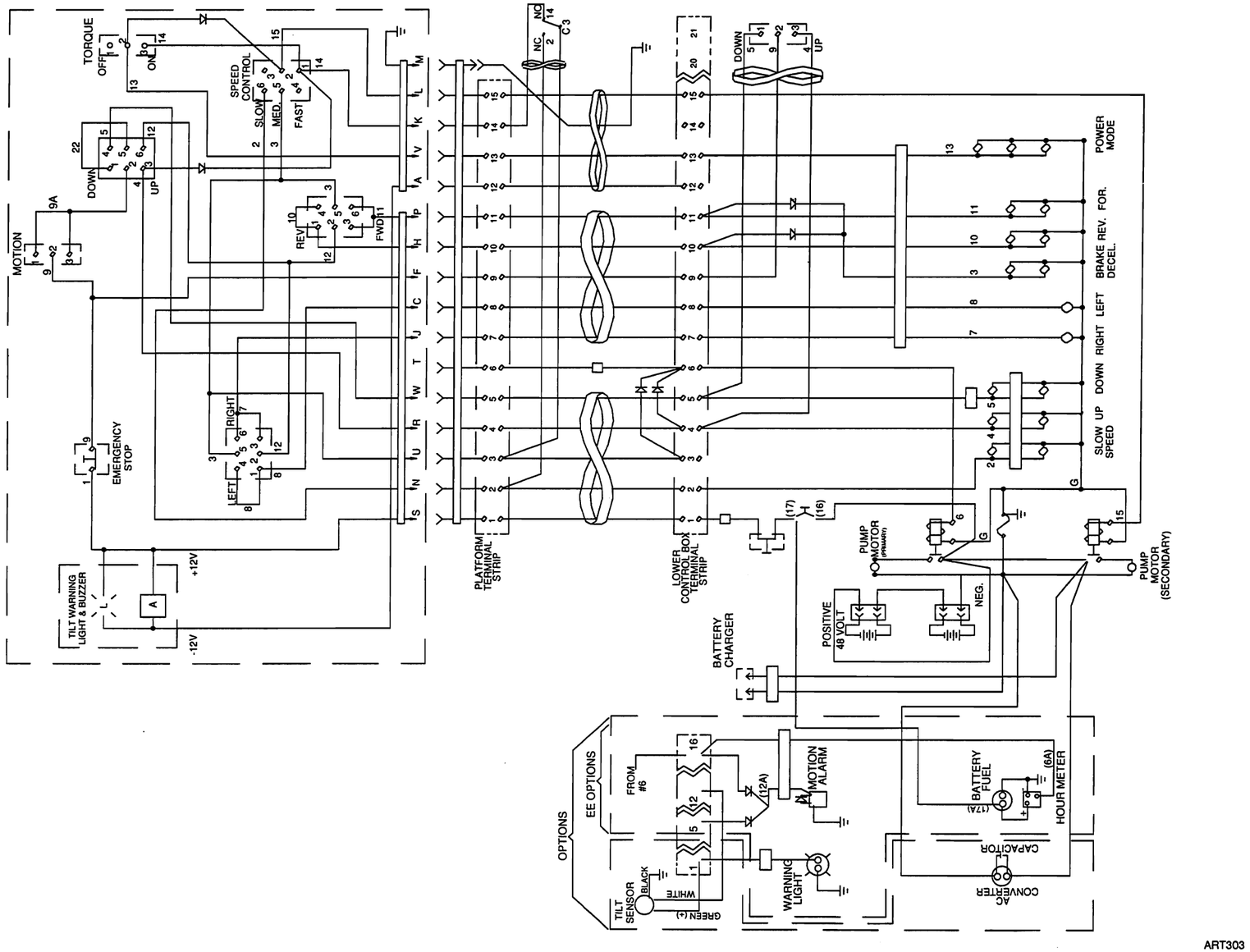

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Figure 5-3. Quadrex 25E/33E Electrical Schematic - Optional Joystick Upper Control Box

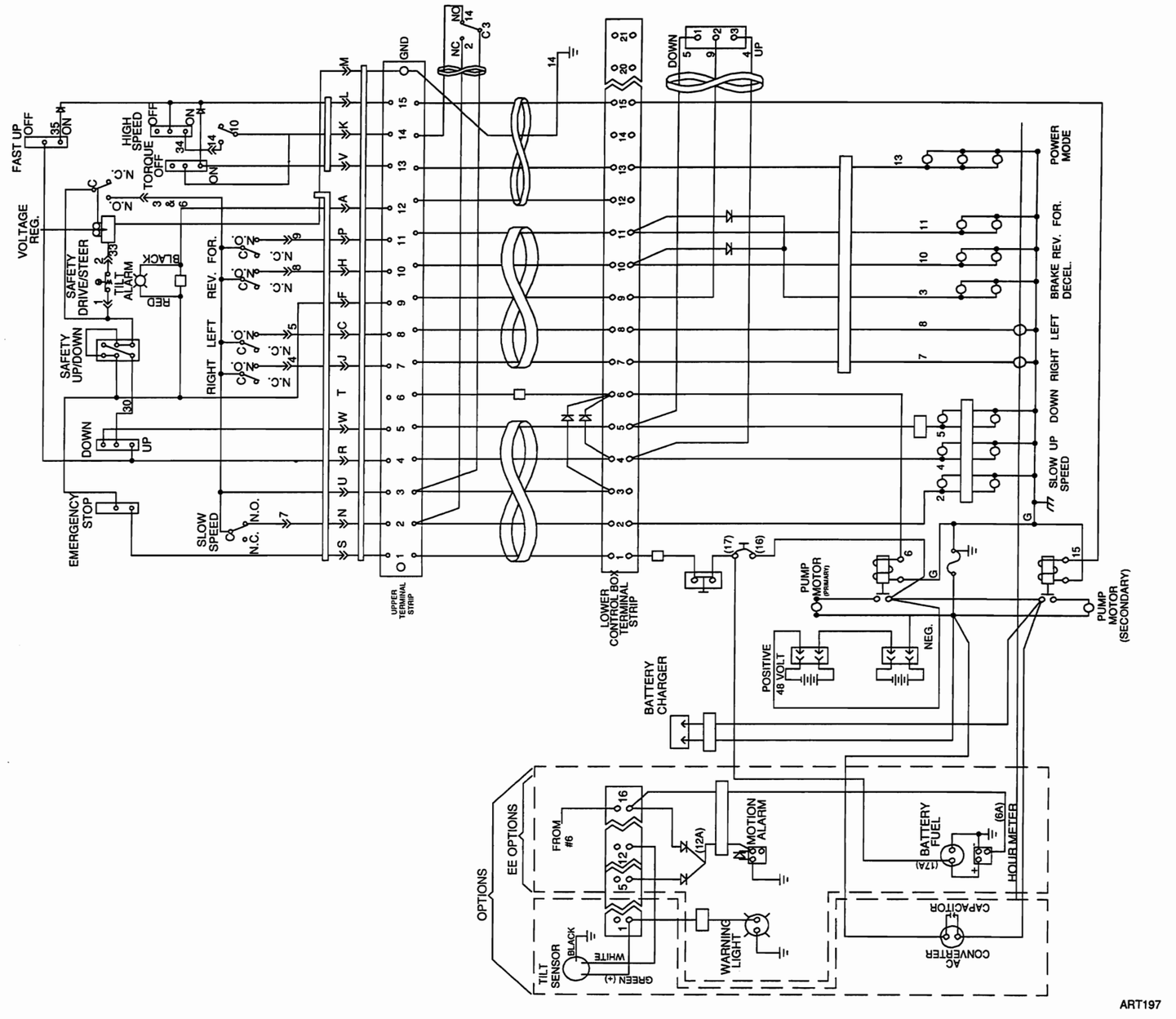


Figure 5-4. Quadrex 25SRT/33SRT Dual Fuel Electrical Harness Layout

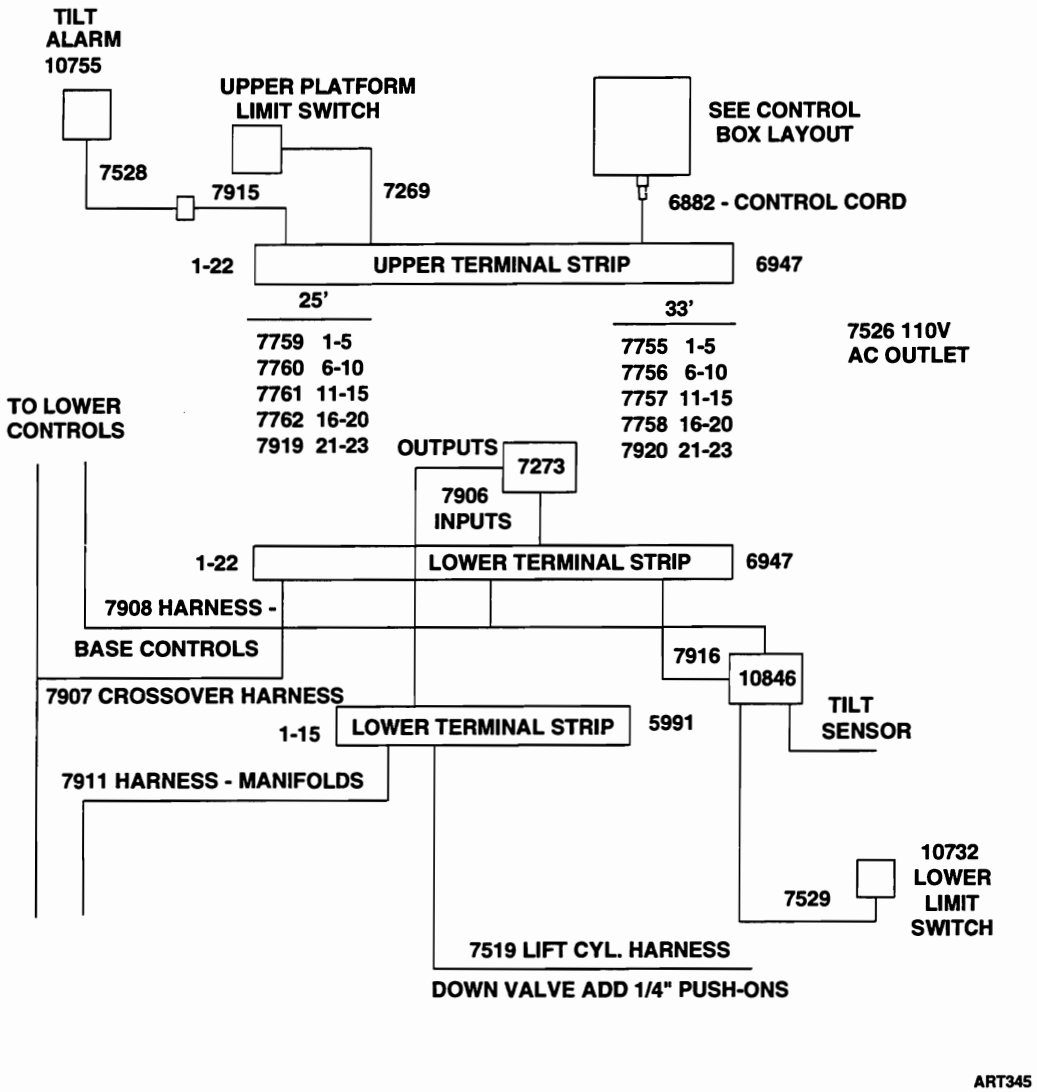


Figure 5-6. Quadrex 25E/33E Electrical Harness Layout

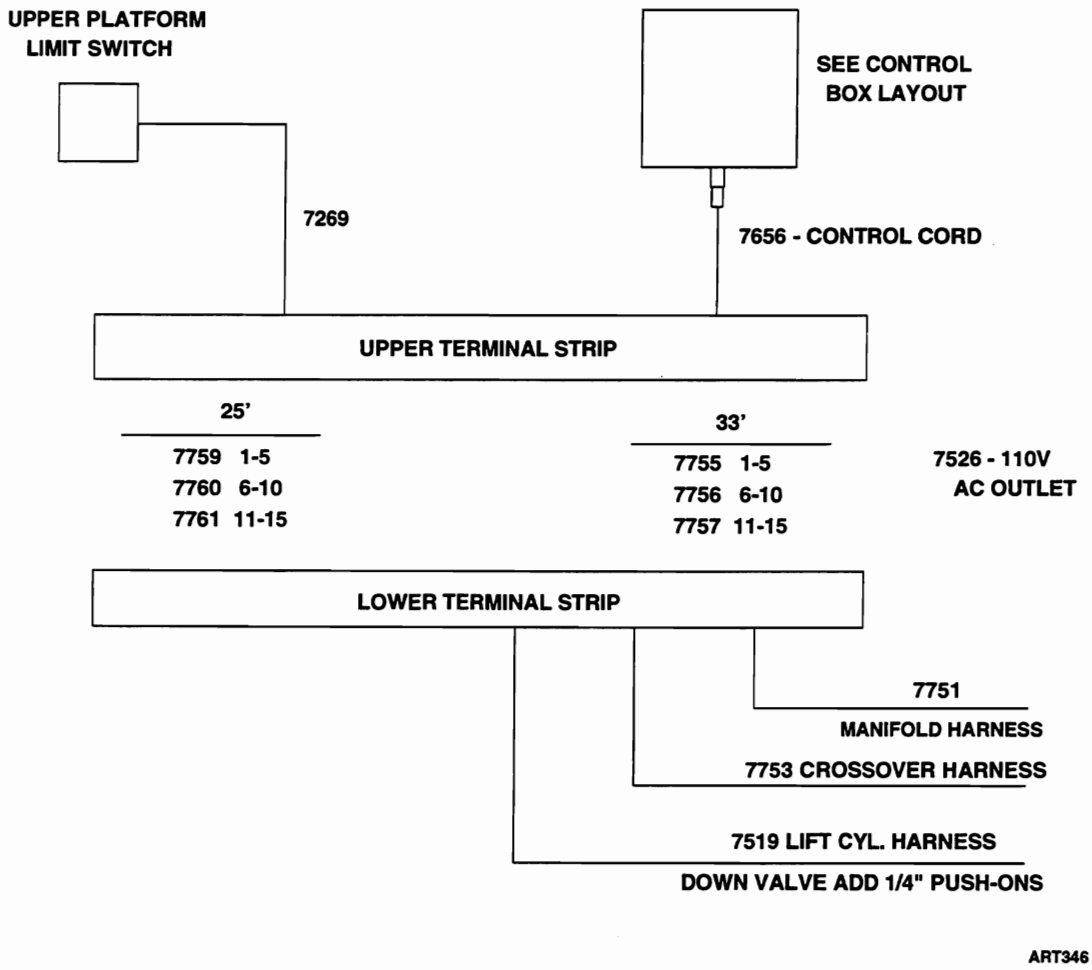


Figure 5-6. Quadrex 25E/33E Battery and Motor Cabling Layout

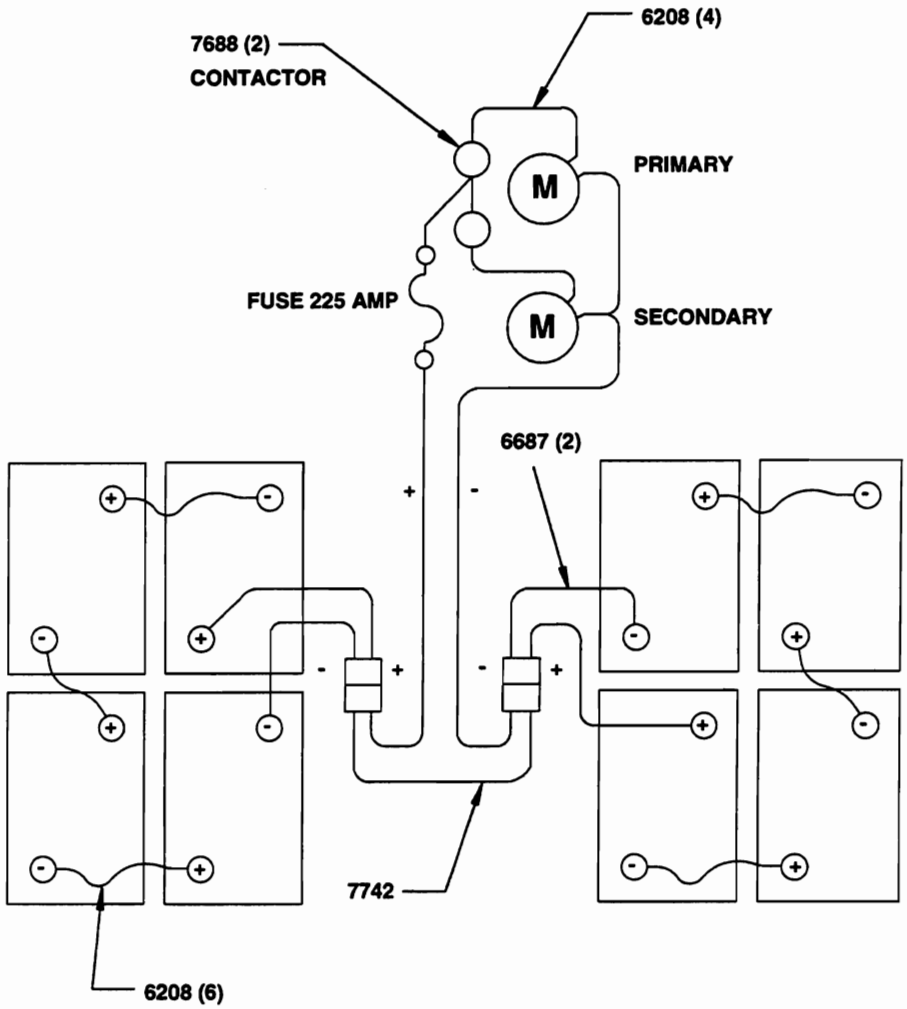
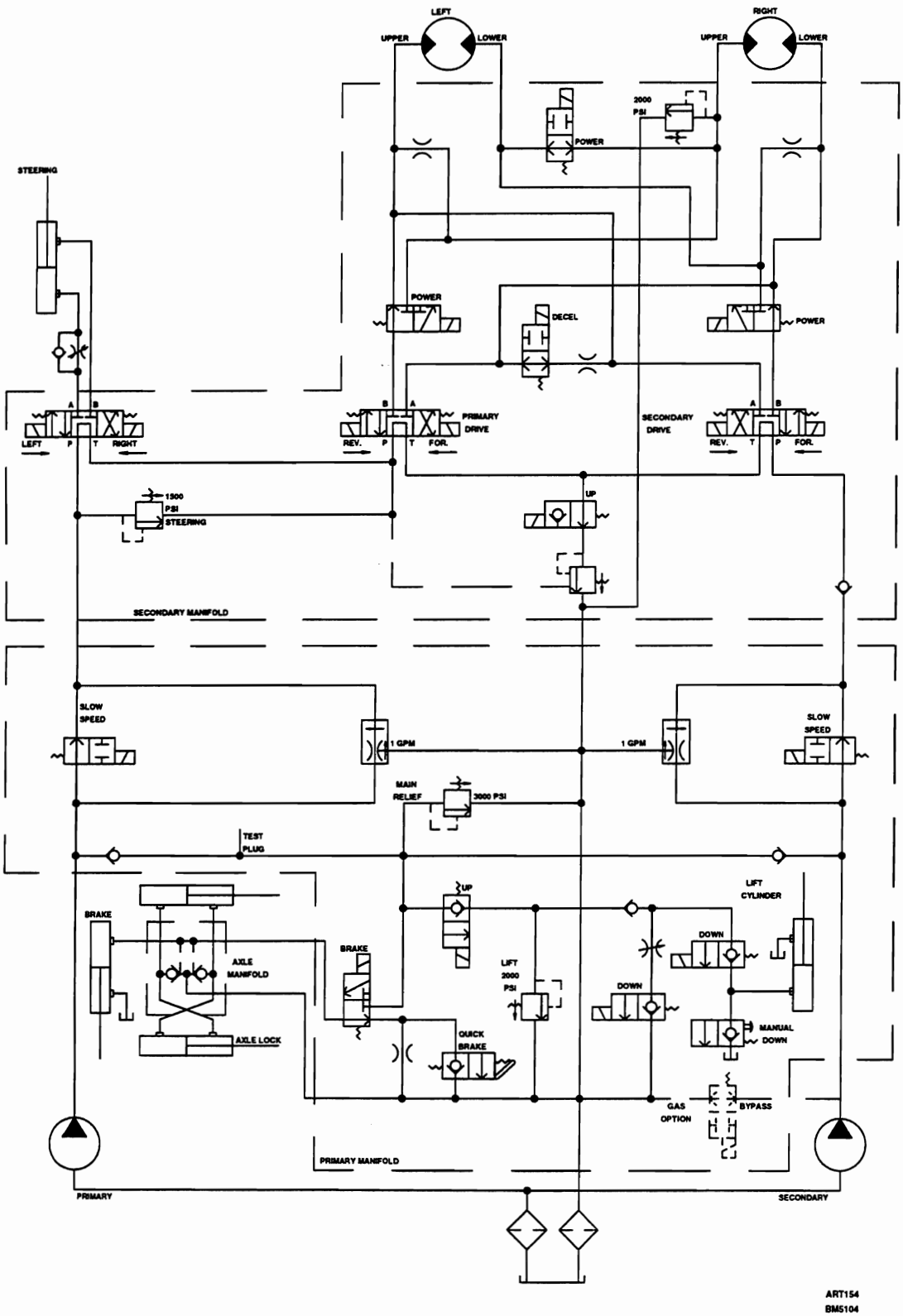


Figure 5-6. Quadrex Hydraulic Schematic



SECTION II

PARTS CATALOG

This section provides a separate chapter for each major division of the equipment. Each chapter contains illustrations of the major assemblies of each division with part numbers pointed out on the illustrations. A numerical index is provided at the end of this section which contains part descriptions.

CHAPTER 6
LOCATOR VIEWS AND DECALS

Figure 6-1. Parts Catalog Locator View - 25SRT/33SRT

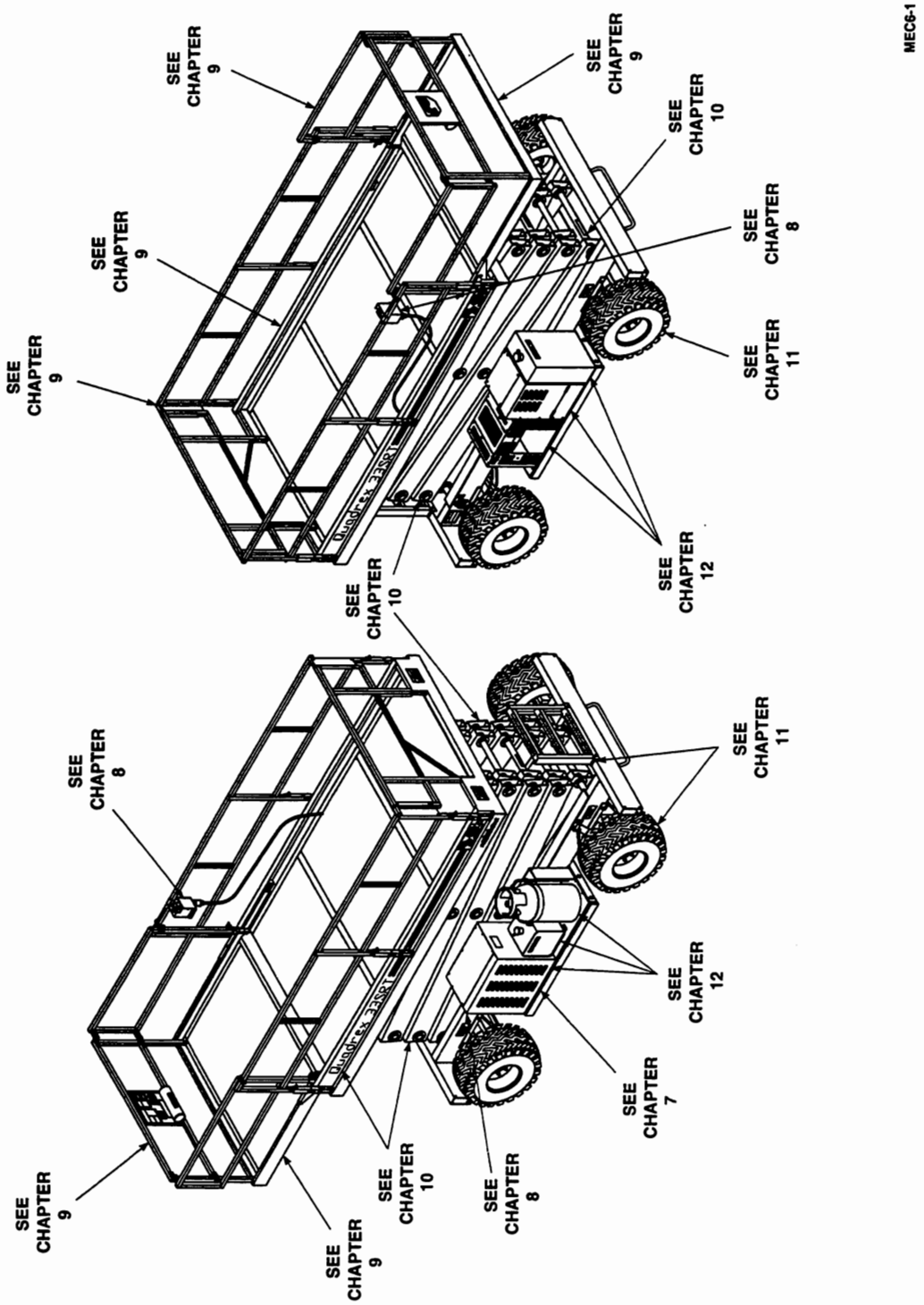


Figure 6-2. Parts Catalog Locator View - 25E/33E

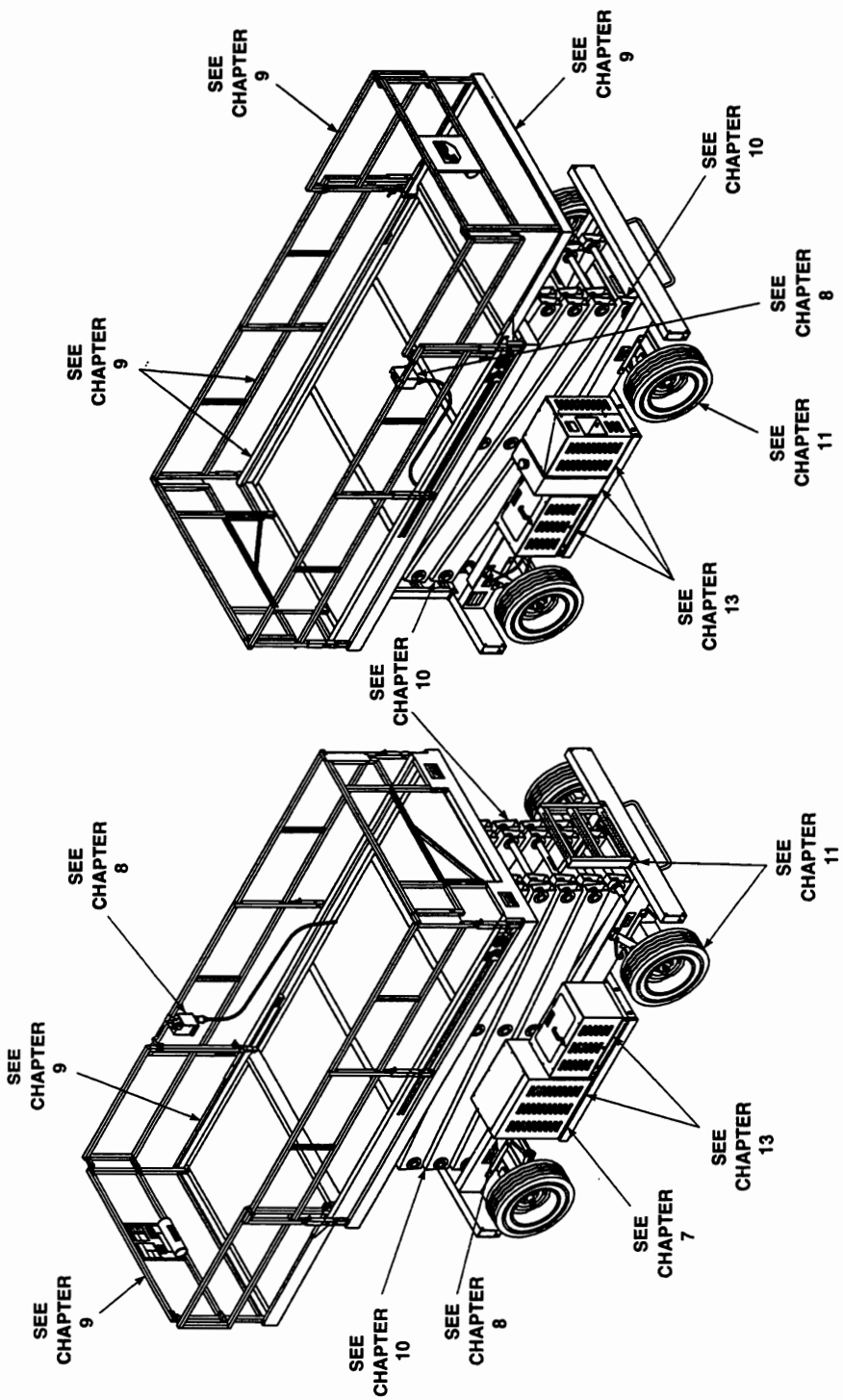


Figure 6-3. Decals - 25SRT/33SRT

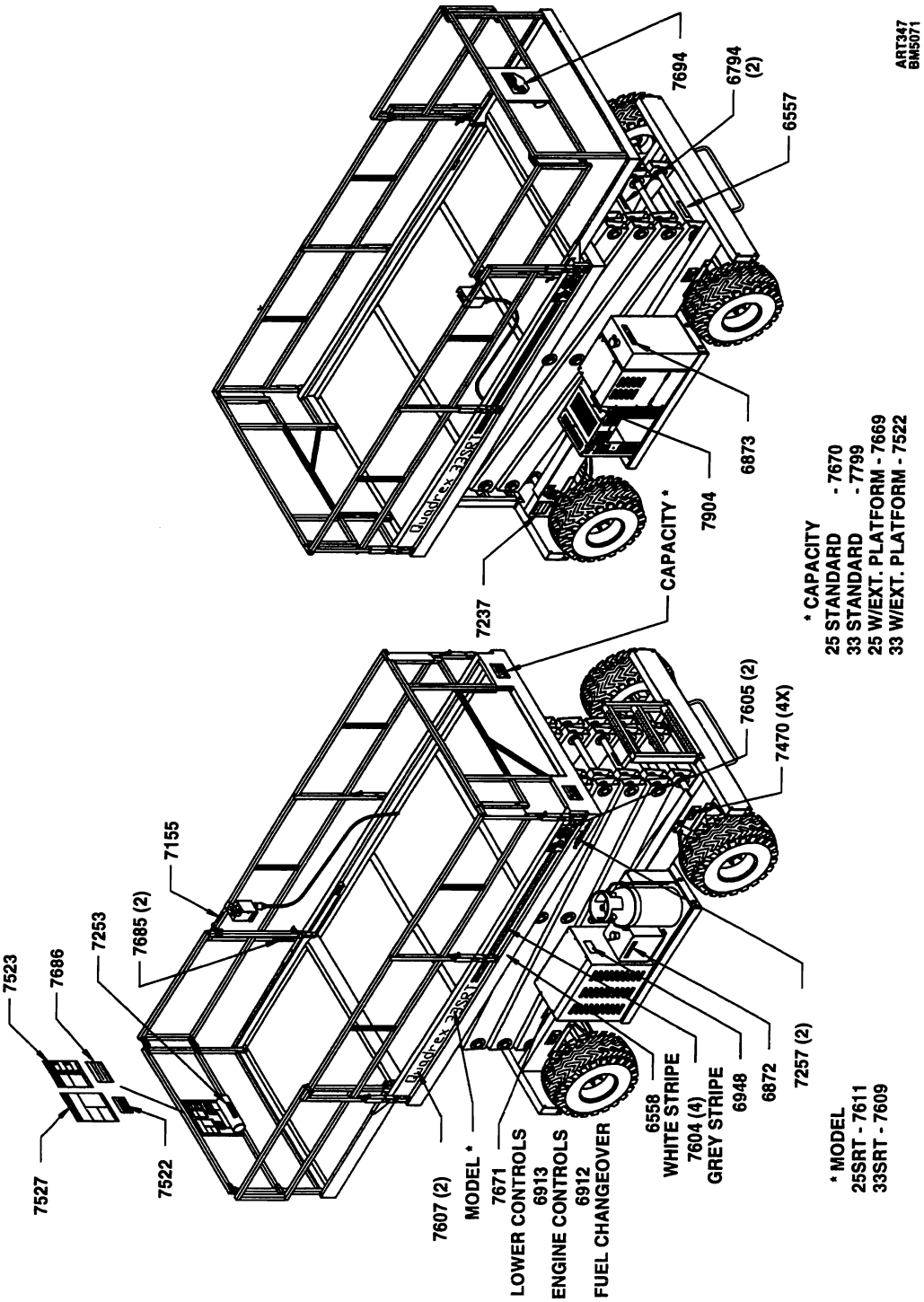
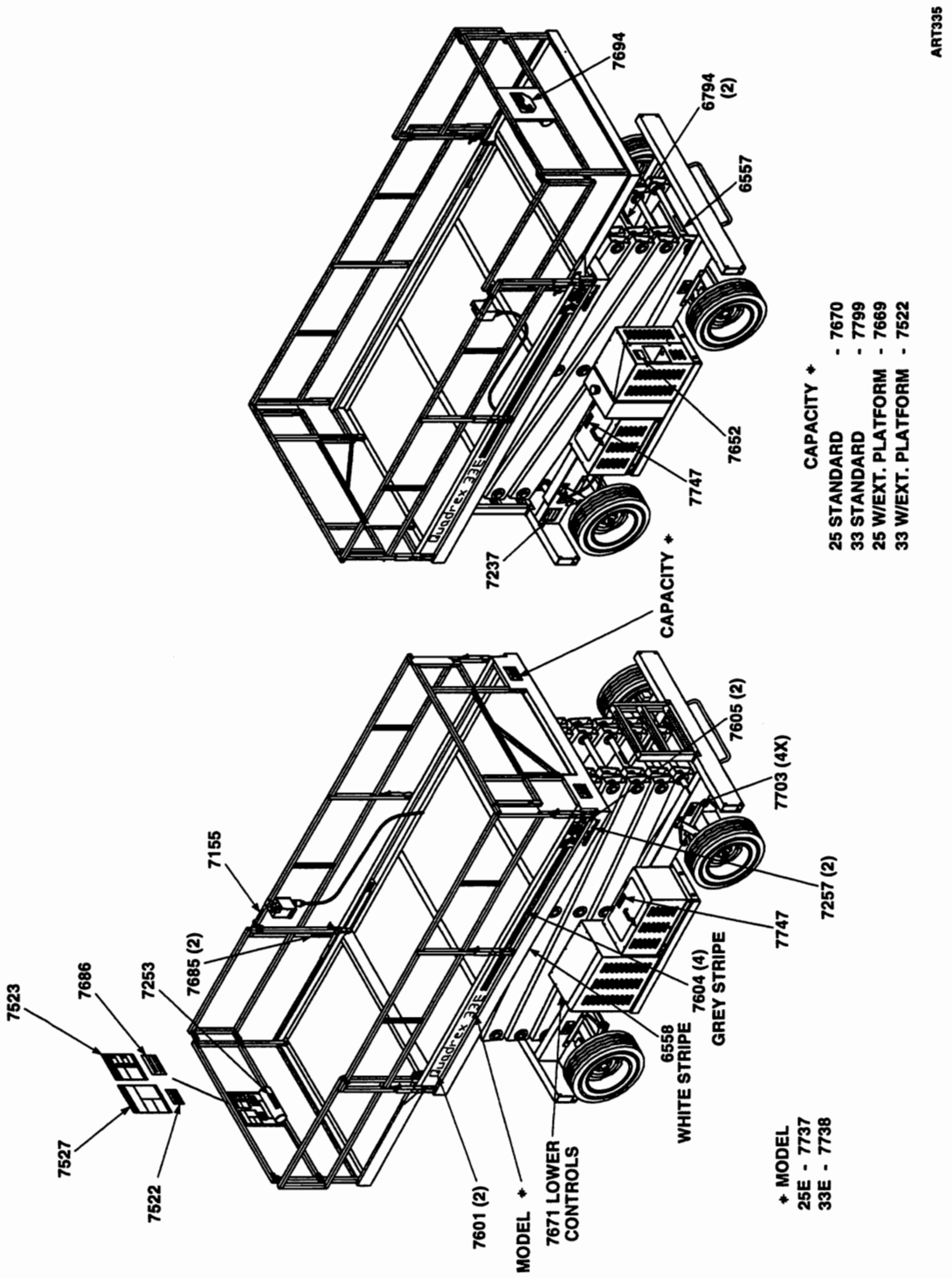


Figure 6-4. Decals - 25E/33E



CHAPTER 7
HYDRAULIC VALVES

Figure 7-1. Hydraulic Line Layout

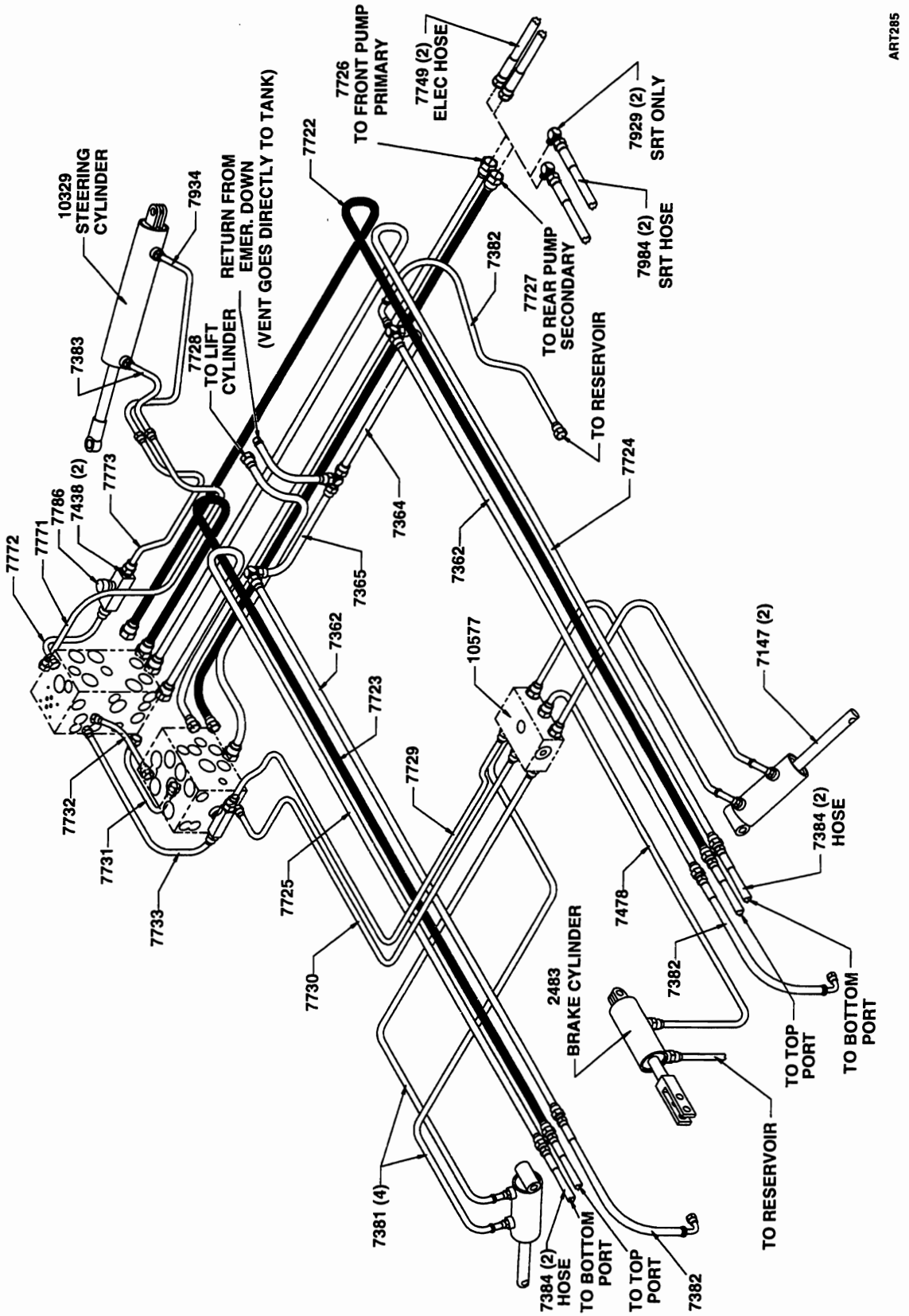


Figure 7-2. Primary Manifold

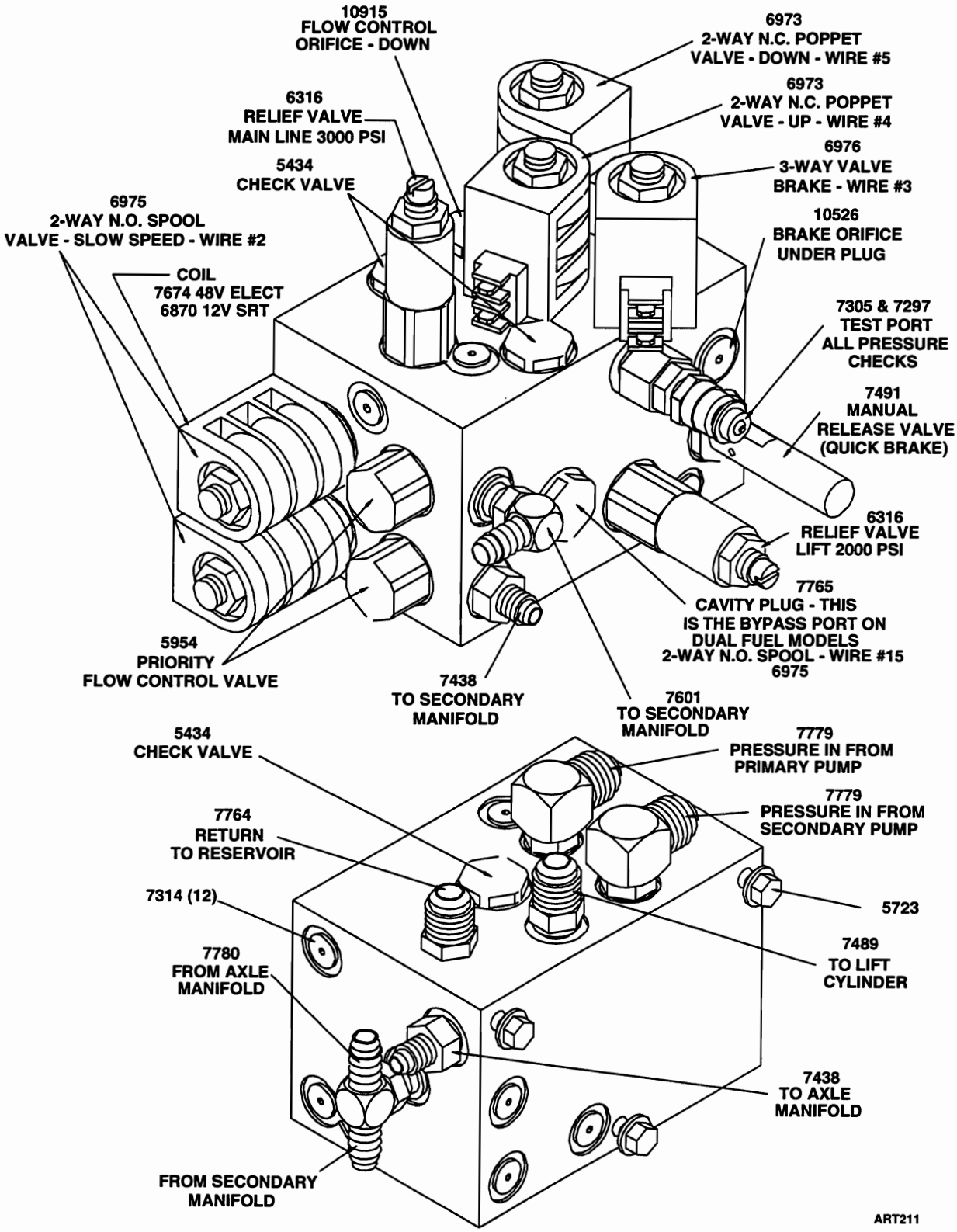


Figure 7-3. Secondary Manifold

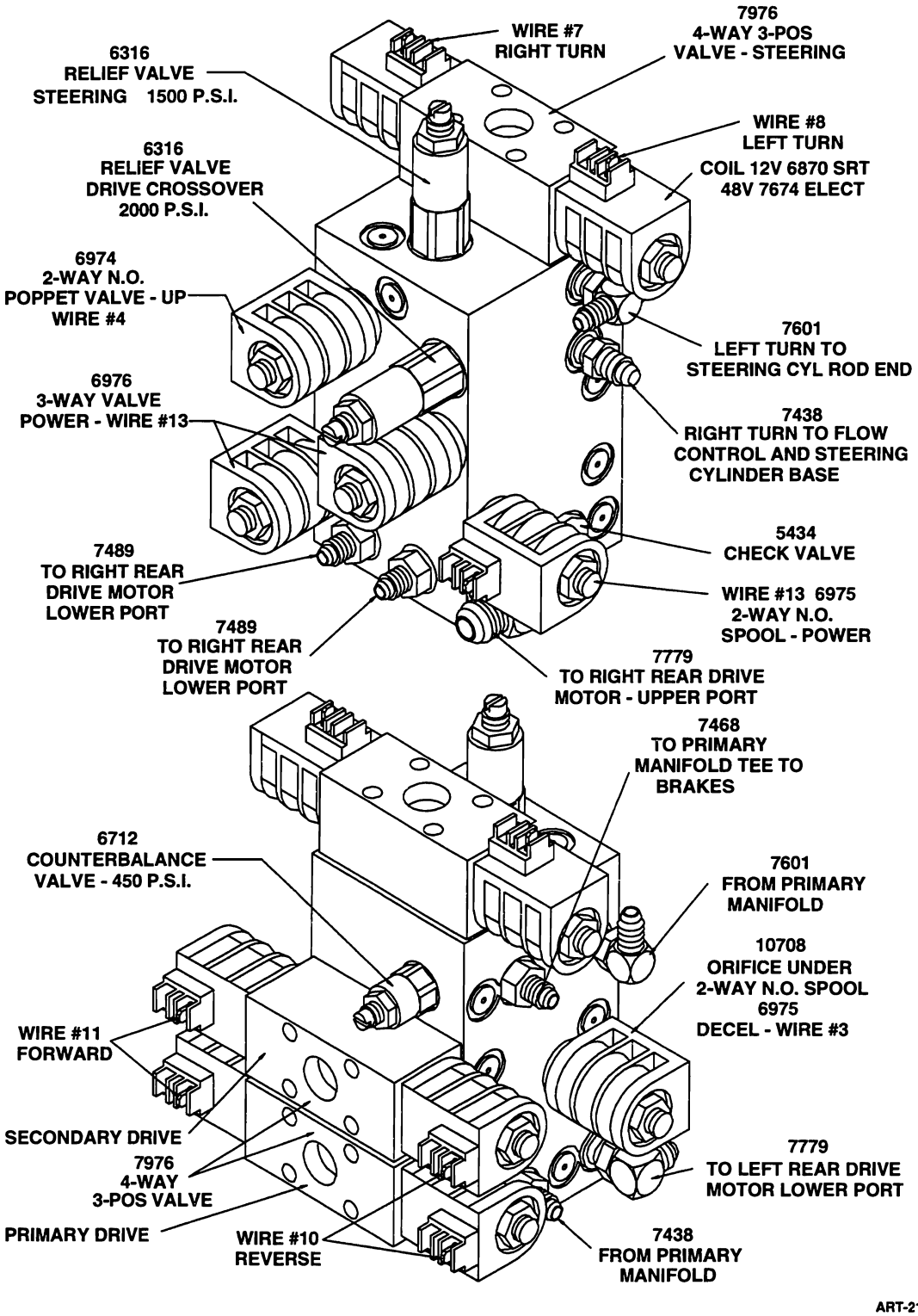
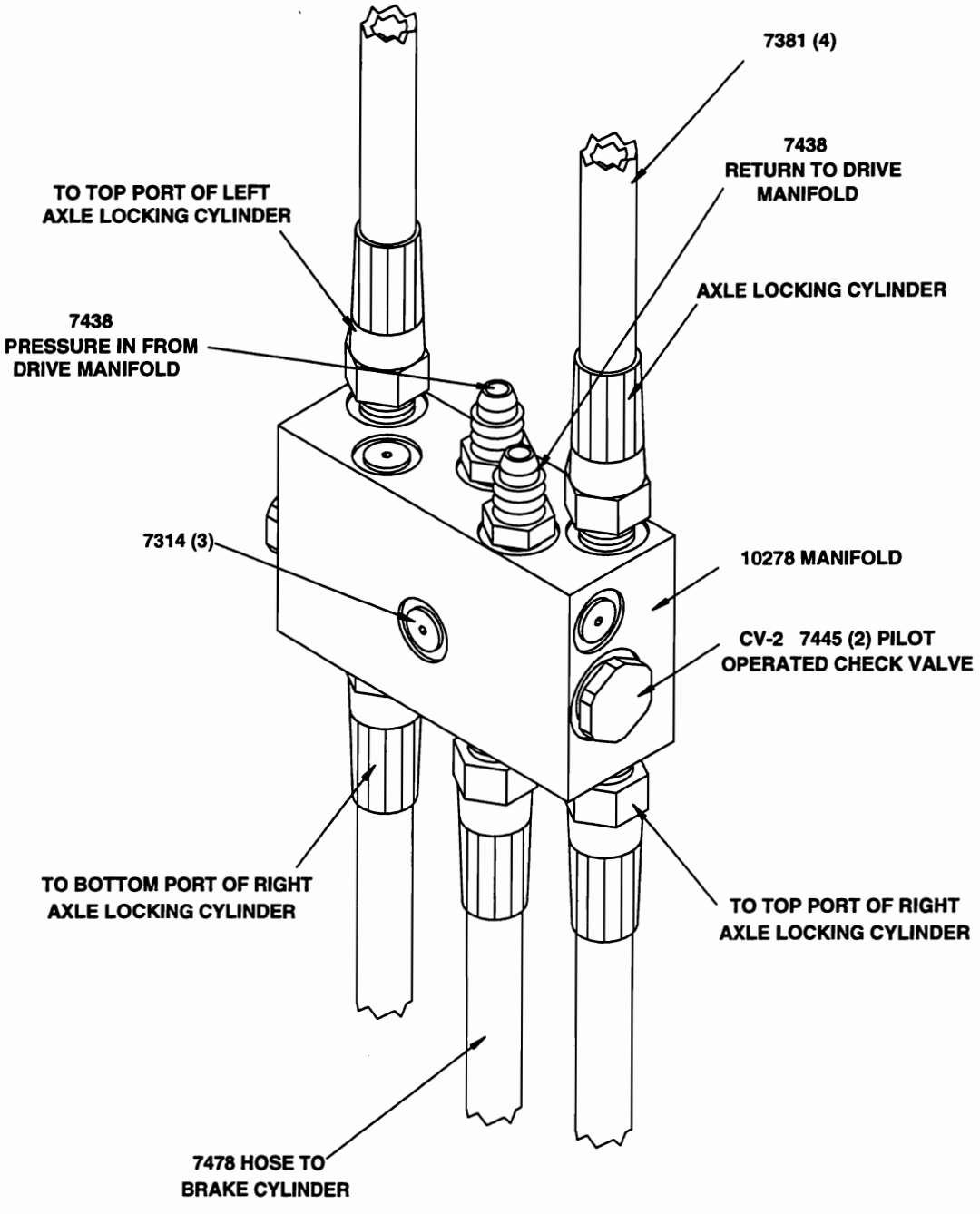


Figure 7-4. Manifold Block



CHAPTER 8
CONTROL BOX ASSEMBLIES

Figure 8-1. Upper Control Box Assembly - Dual Fuel Units

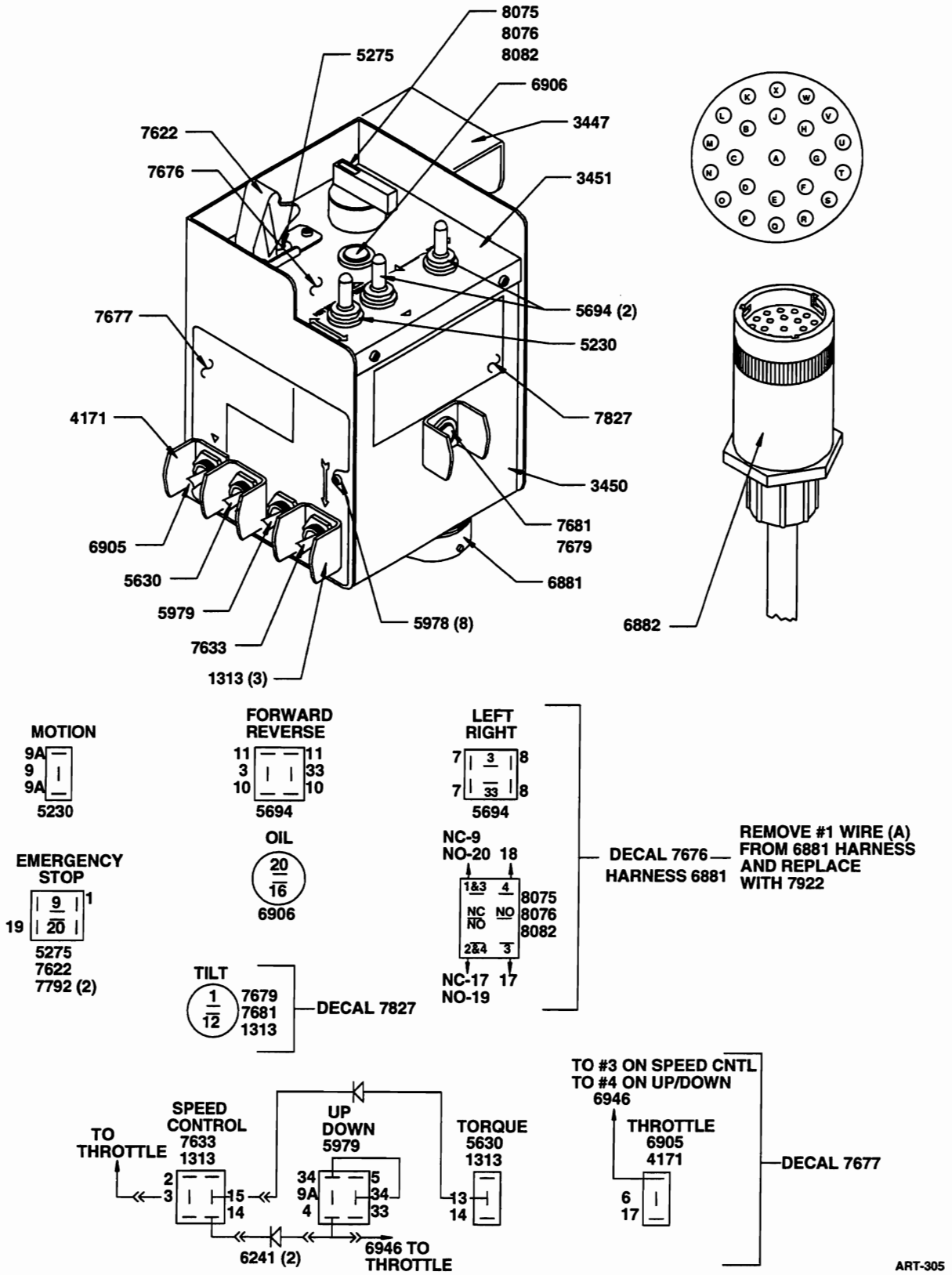
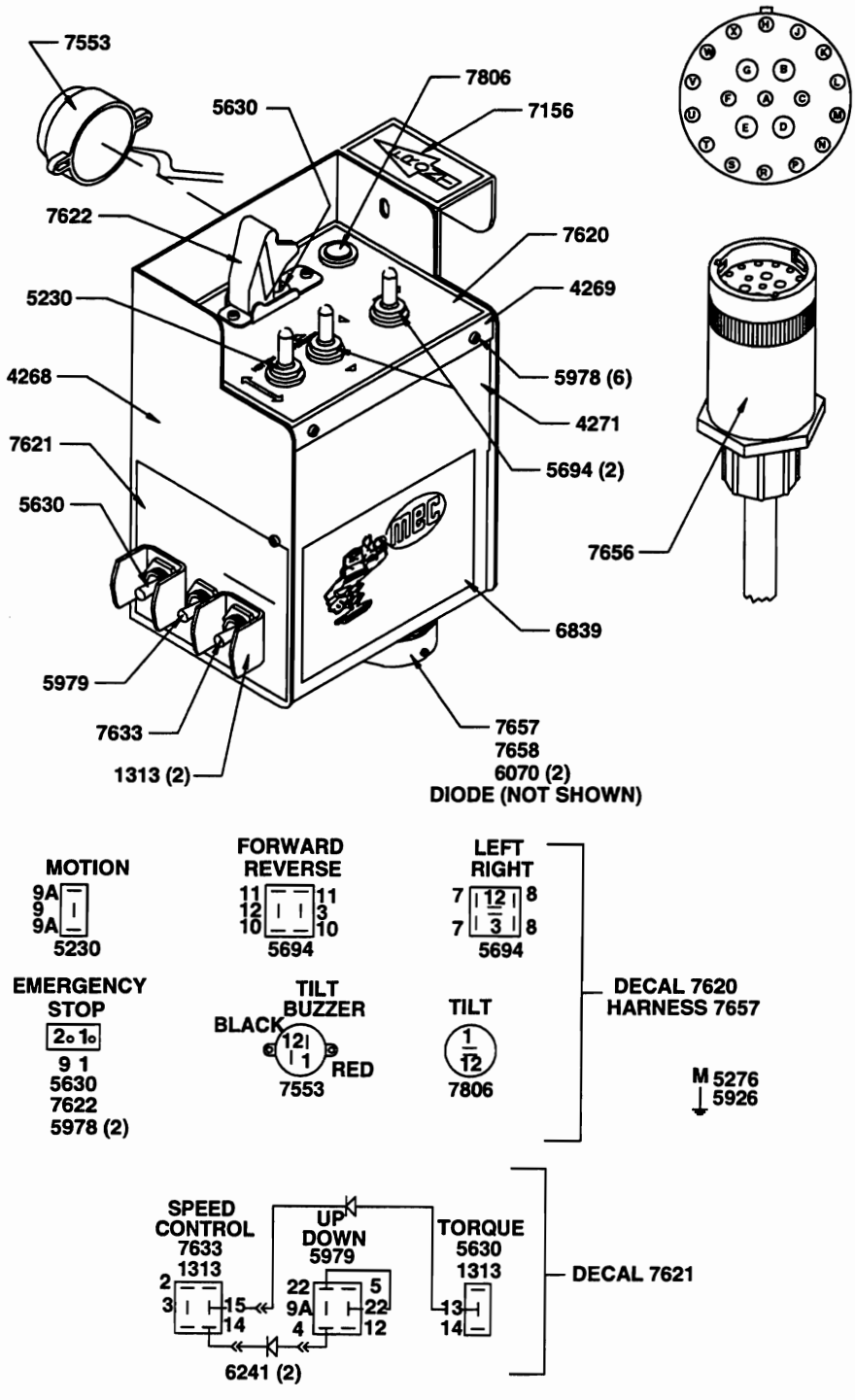


Figure 8-2. Standard Upper Control Box Assembly - Electric Units



ART-333

Figure 8-3. Optional Upper Control Box Assembly - Electric Units (Sheet 1 of 5)

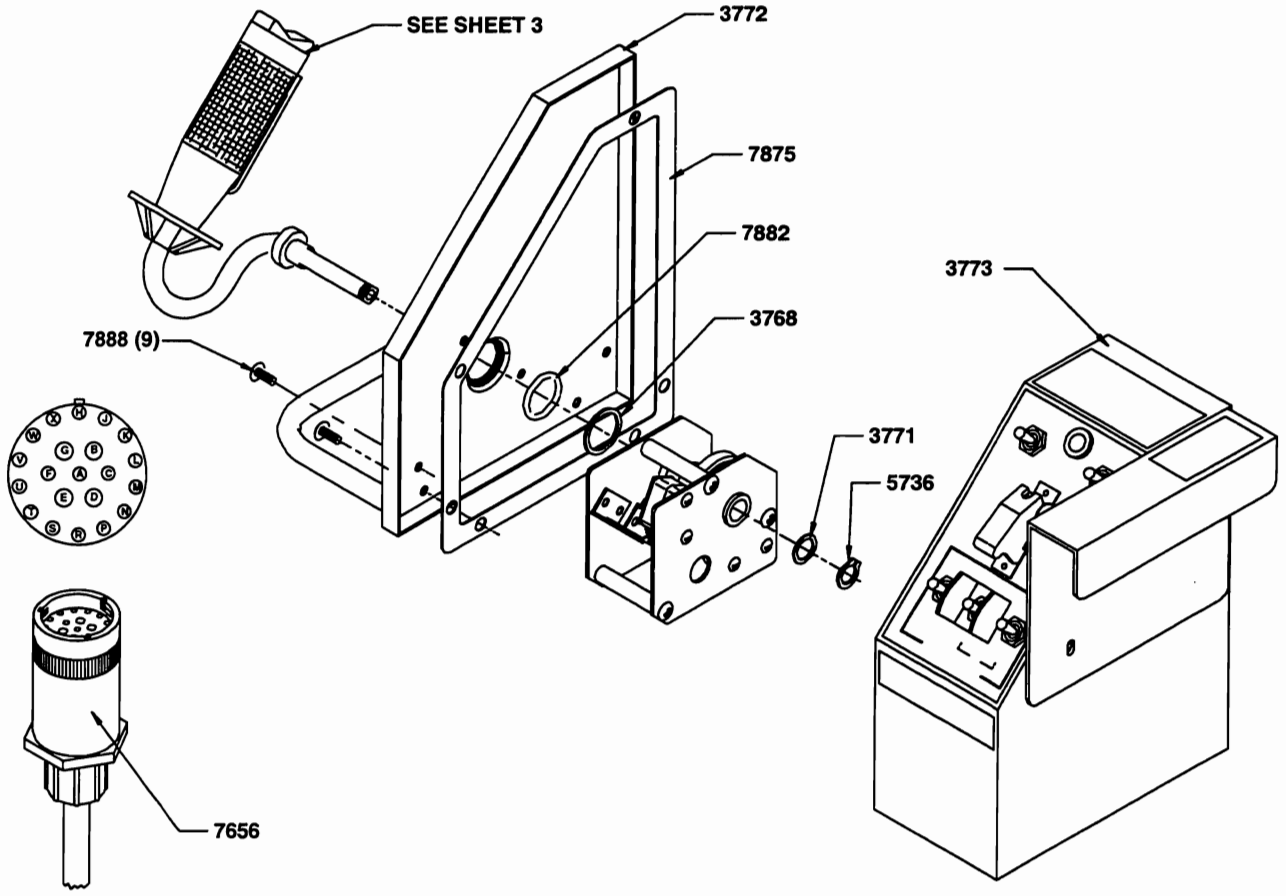


Figure 8-3. Optional Upper Control Box Assembly - Electric Units (Sheet 2 of 5)

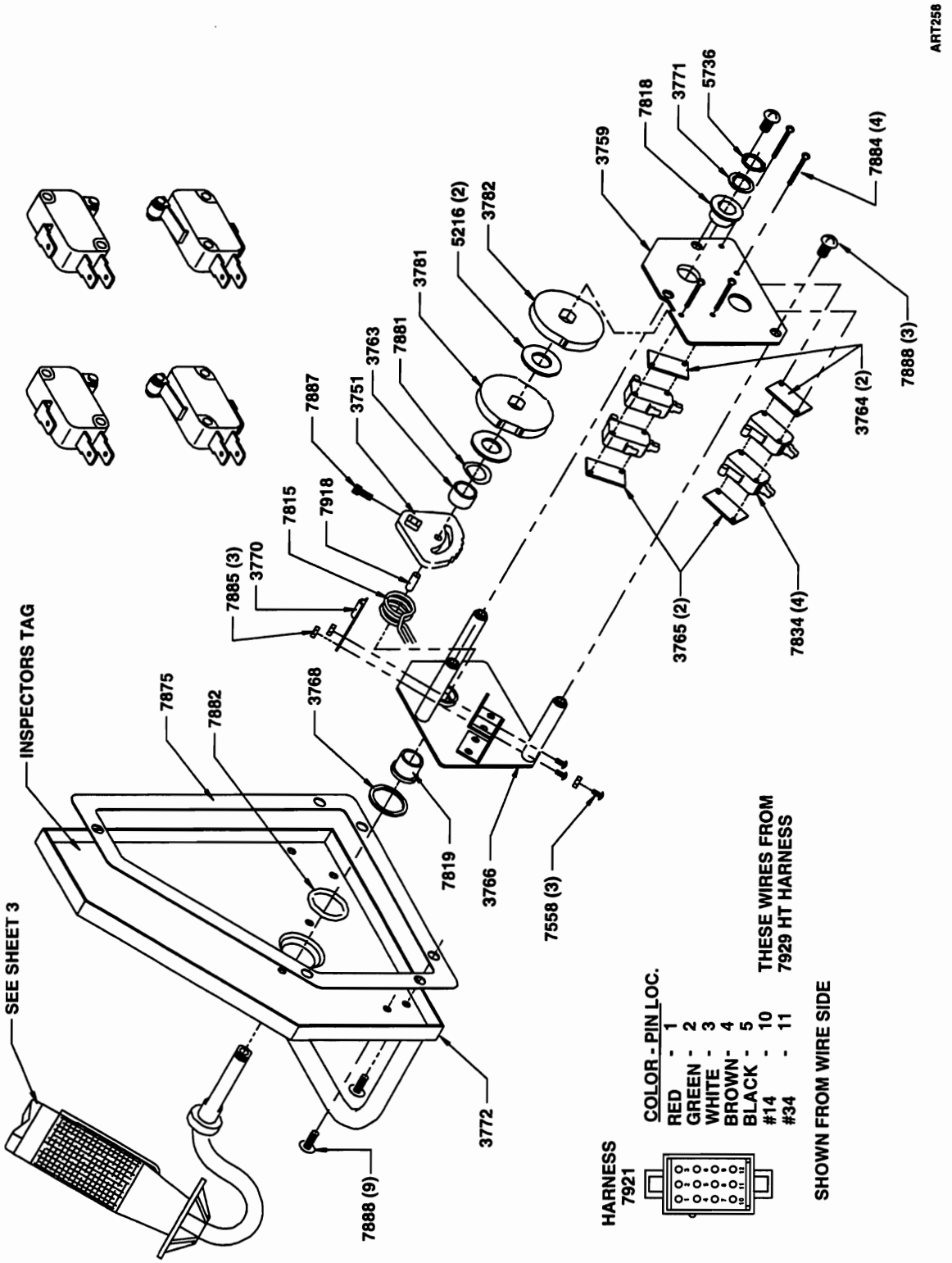


Figure 8-3. Optional Upper Control Box Assembly - Electric Units (Sheet 3 of 5)

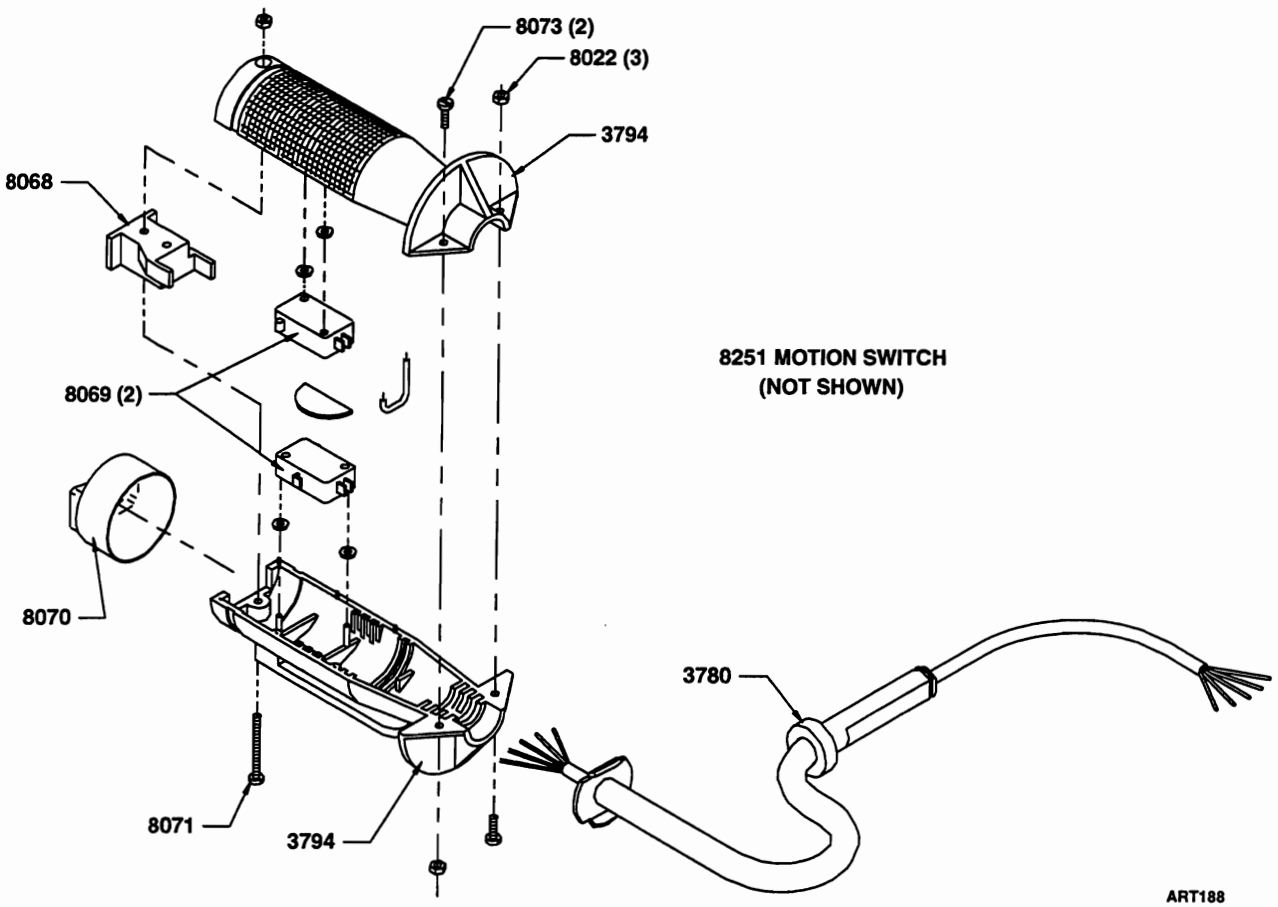


Figure 8-3. Optional Upper Control Box Assembly - Electric Units (Sheet 4 of 5)

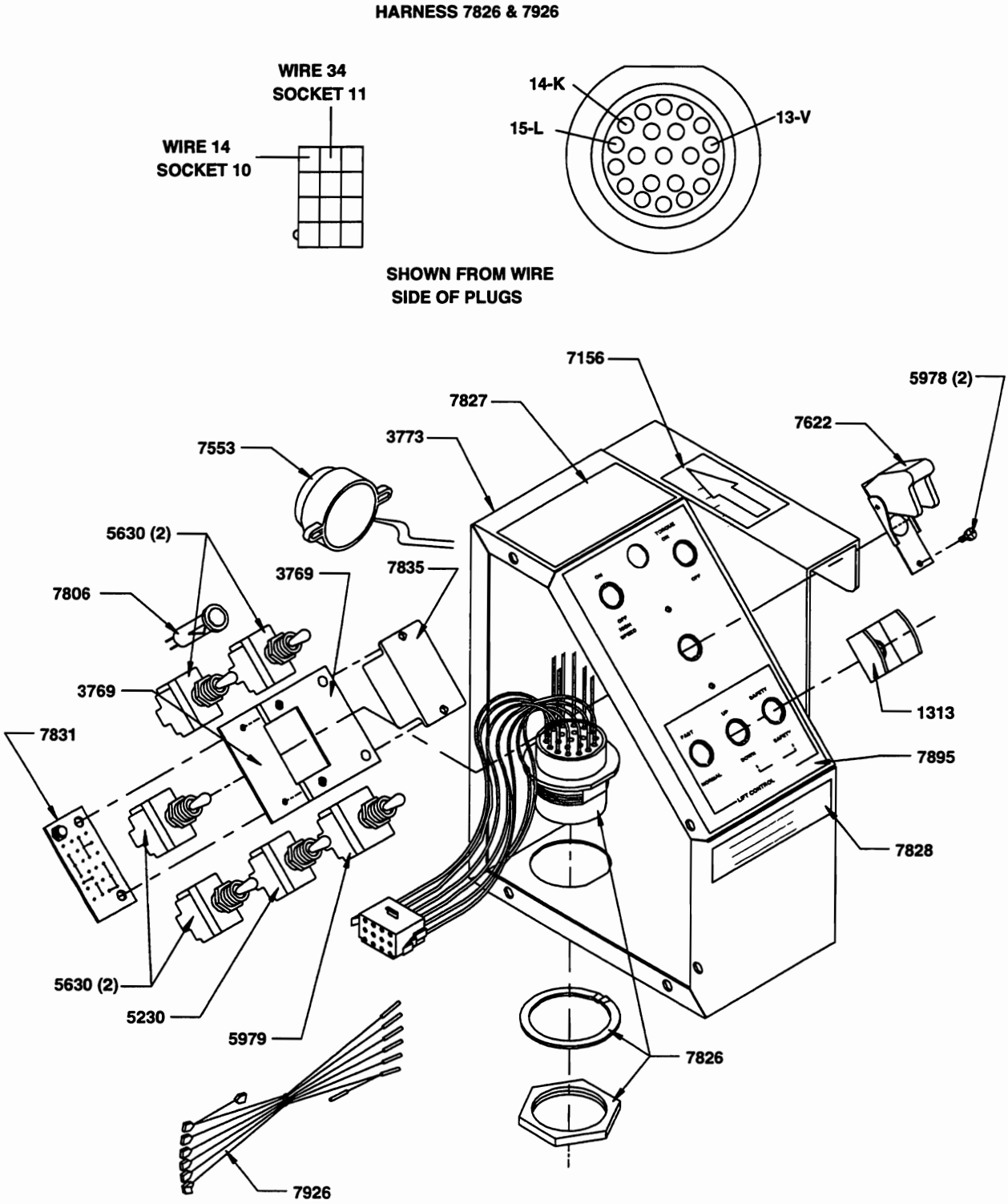
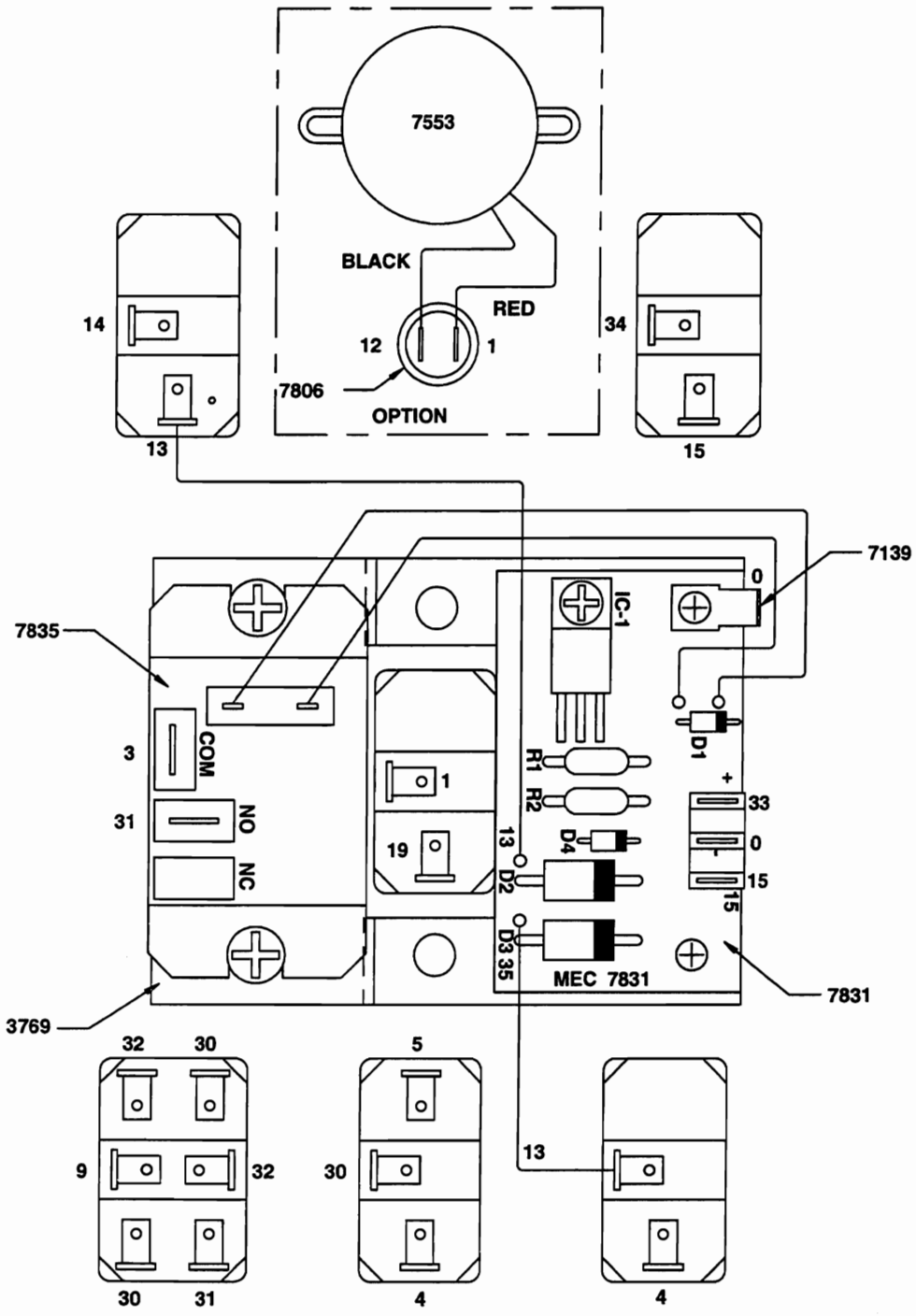


Figure 8-3. Optional Upper Control Box Assembly - Electric Units (Sheet 5 of 5)

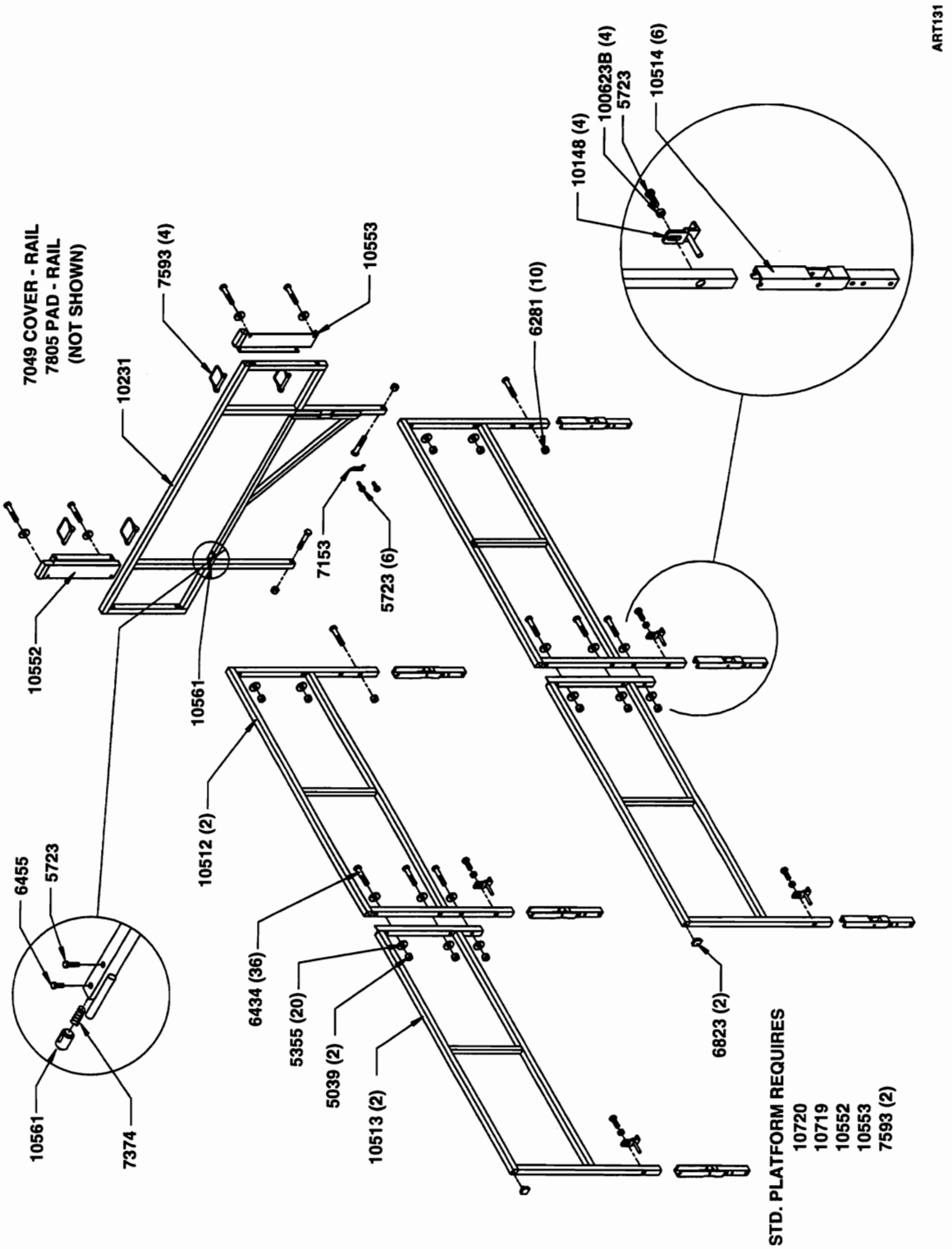


SHOWN FROM BACKSIDE

ART-255

CHAPTER 9
PLATFORM AND RAILINGS

Figure 9-1. Main Platform Rails



Platform and Railings

Figure 9-2. Main Platform

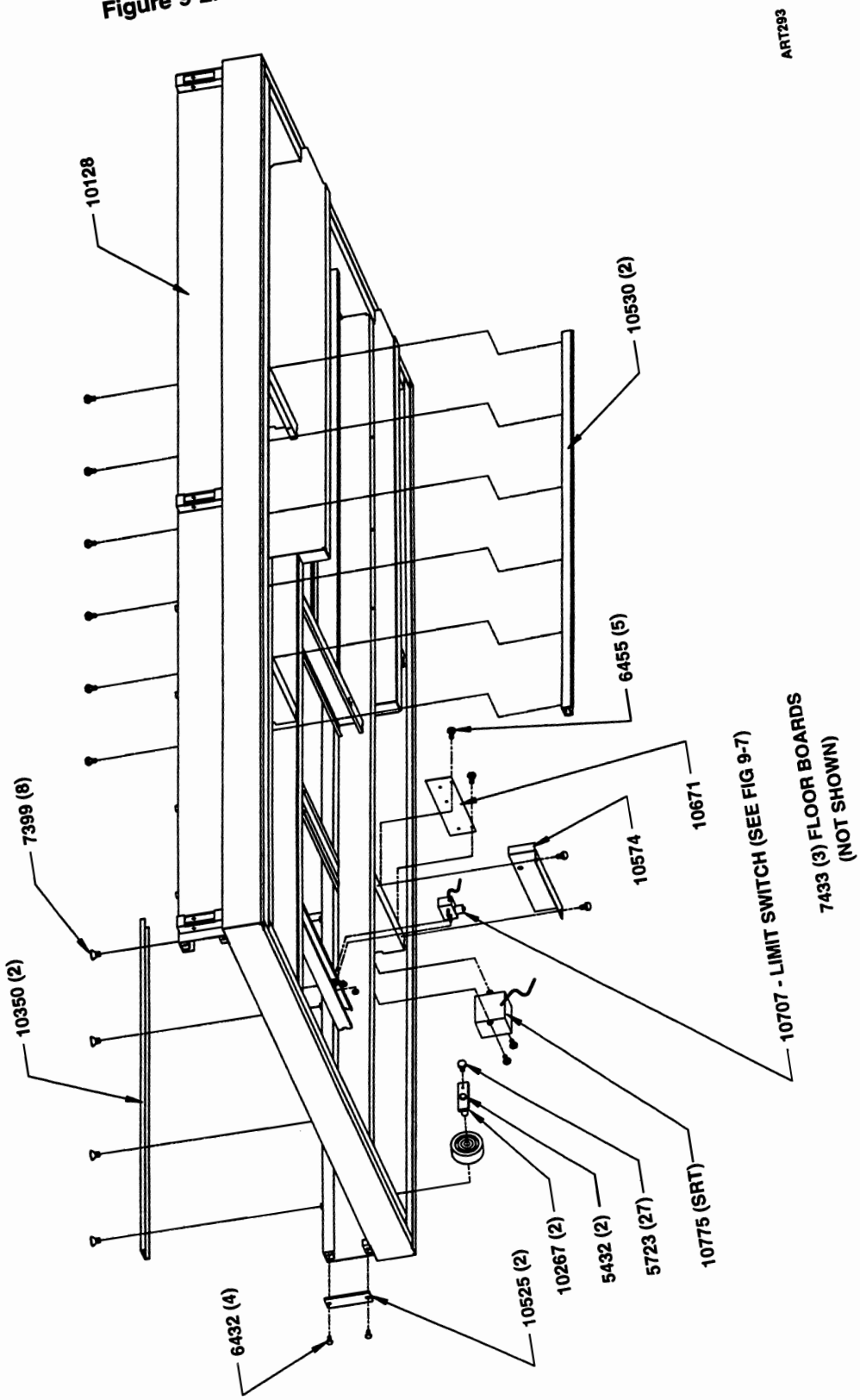


Figure 9-3. Extended Platform Rails

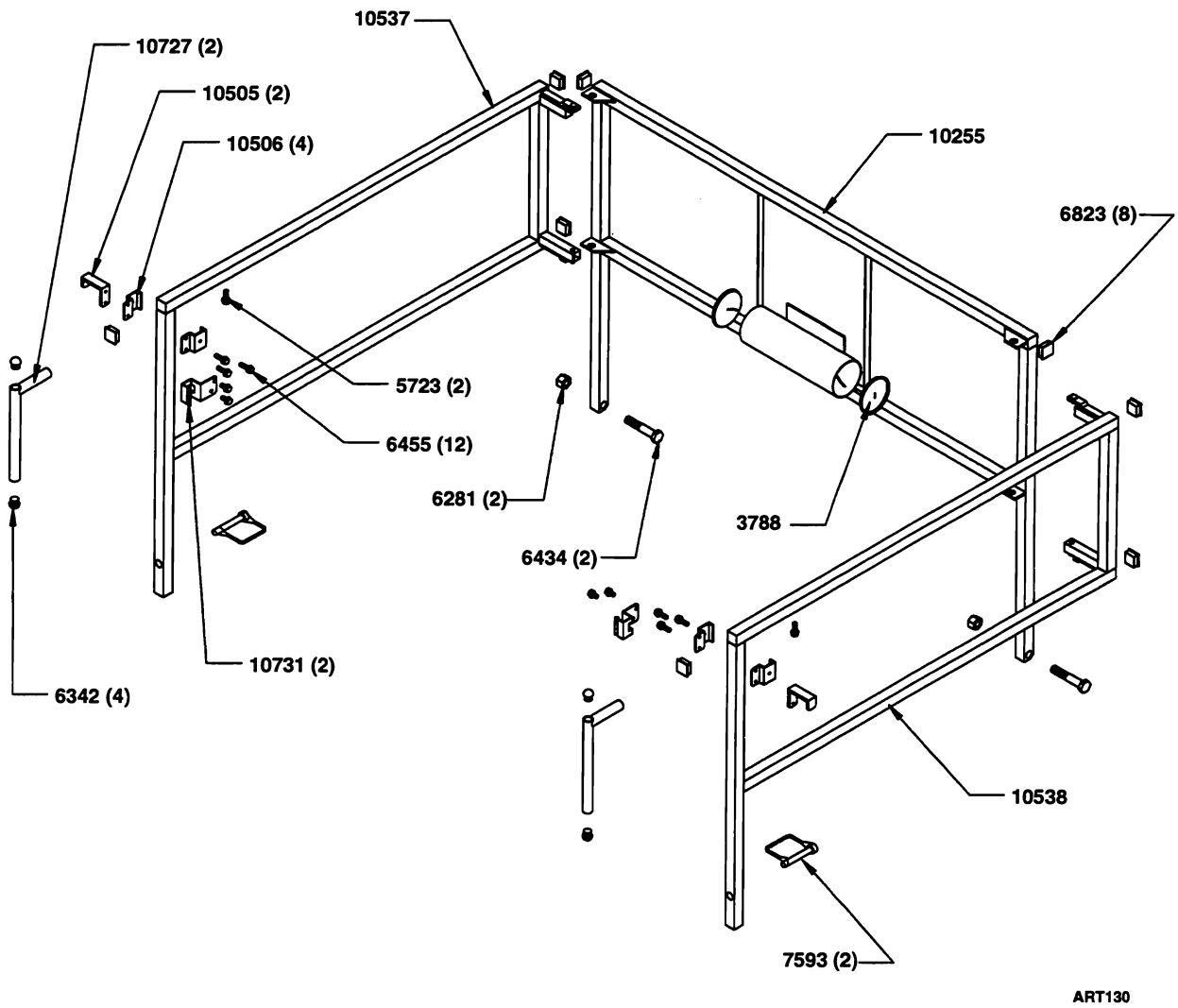


Figure 9-4. Extended Platform

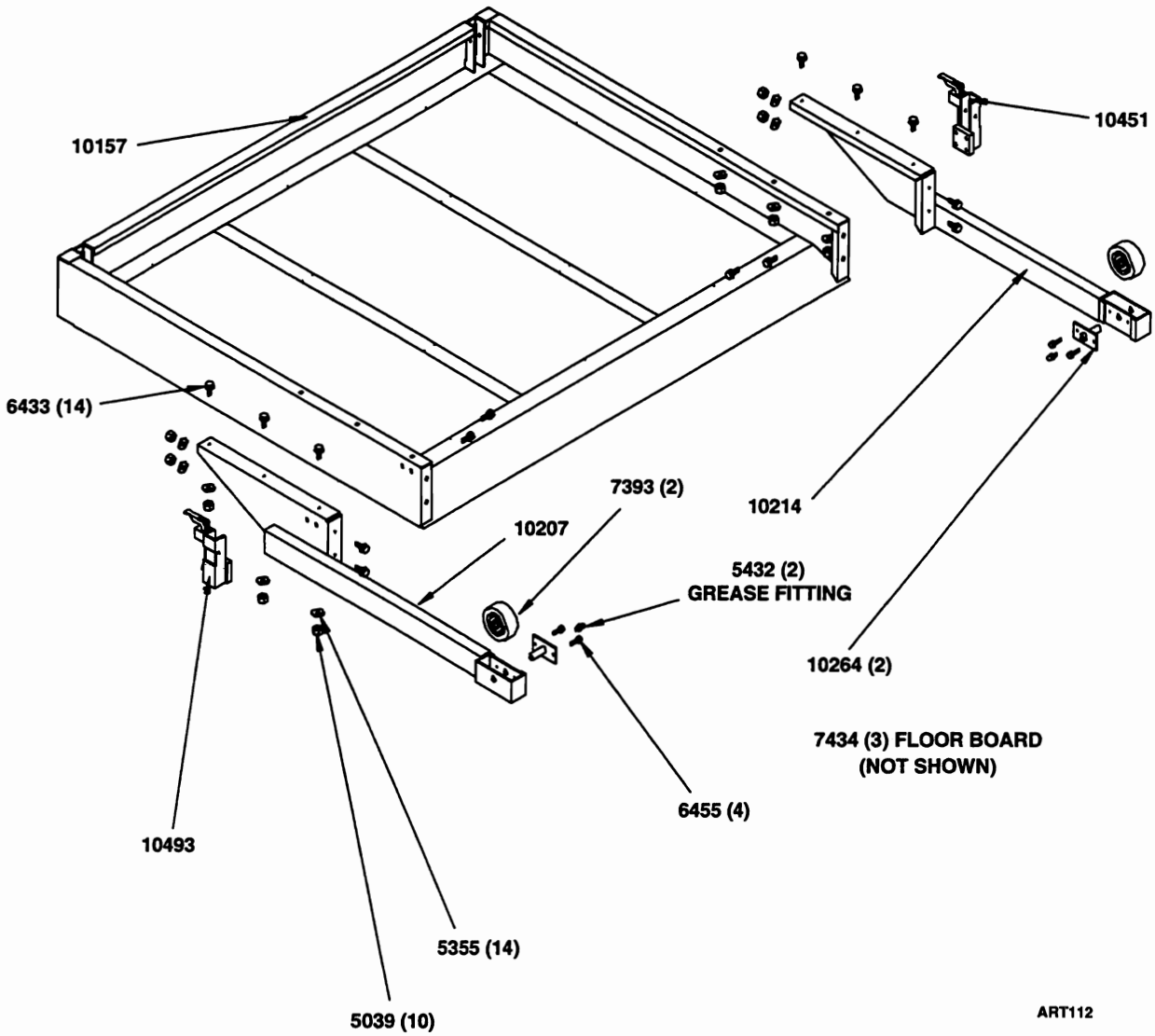


Figure 9-5. Extended Platform Rail Lock Assemblies

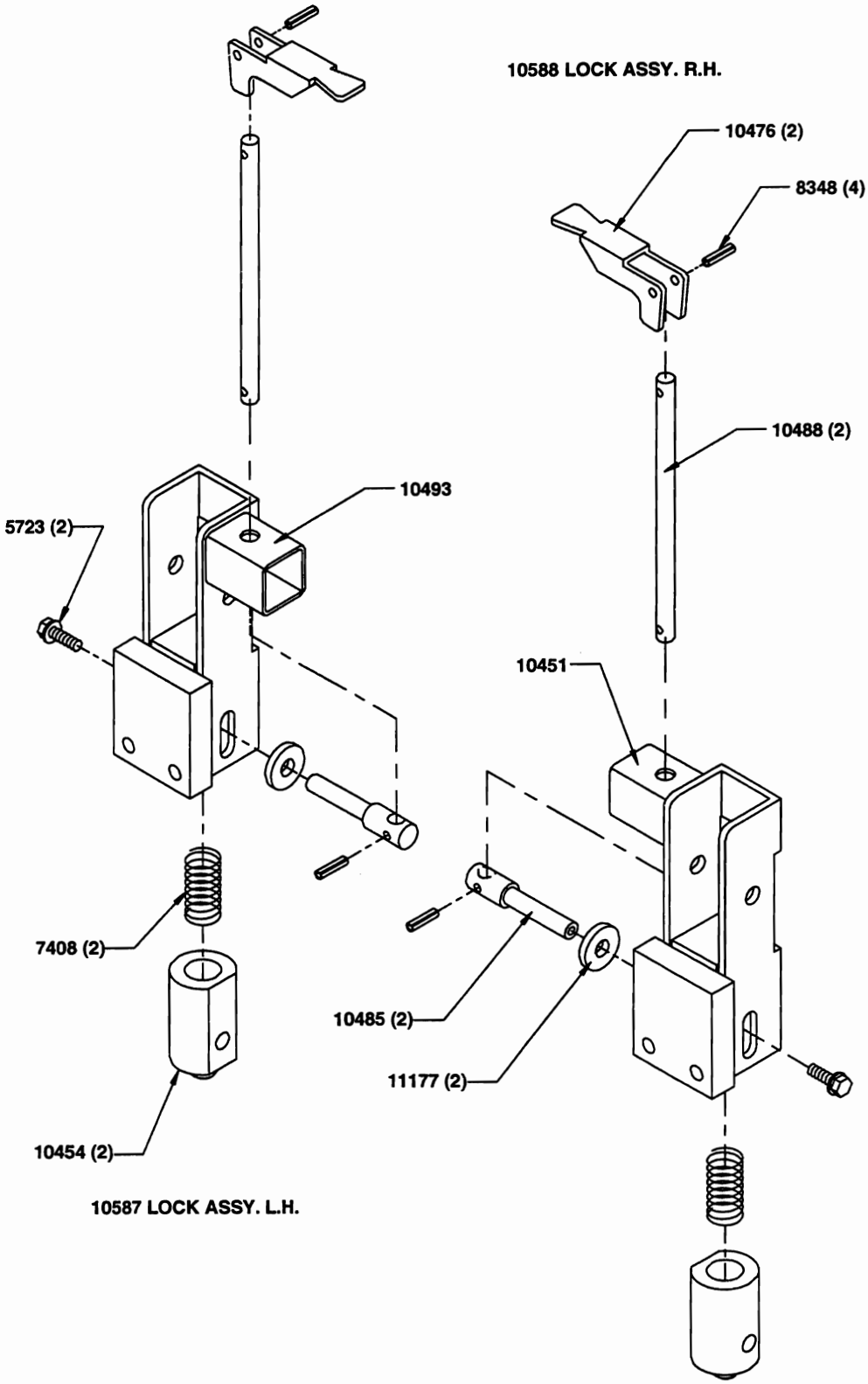


Figure 9-6. Tip Alarm Assembly - 10775

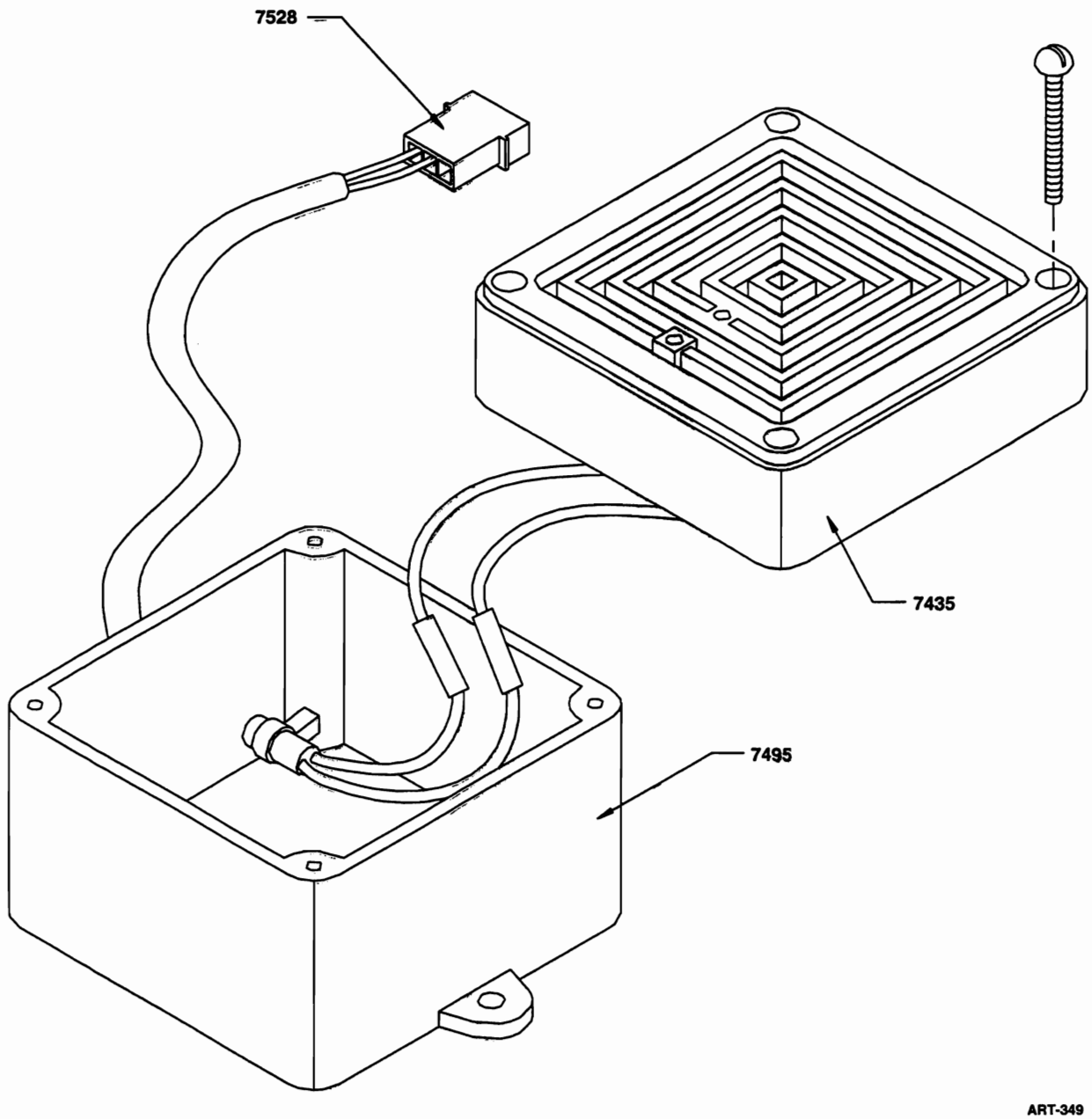
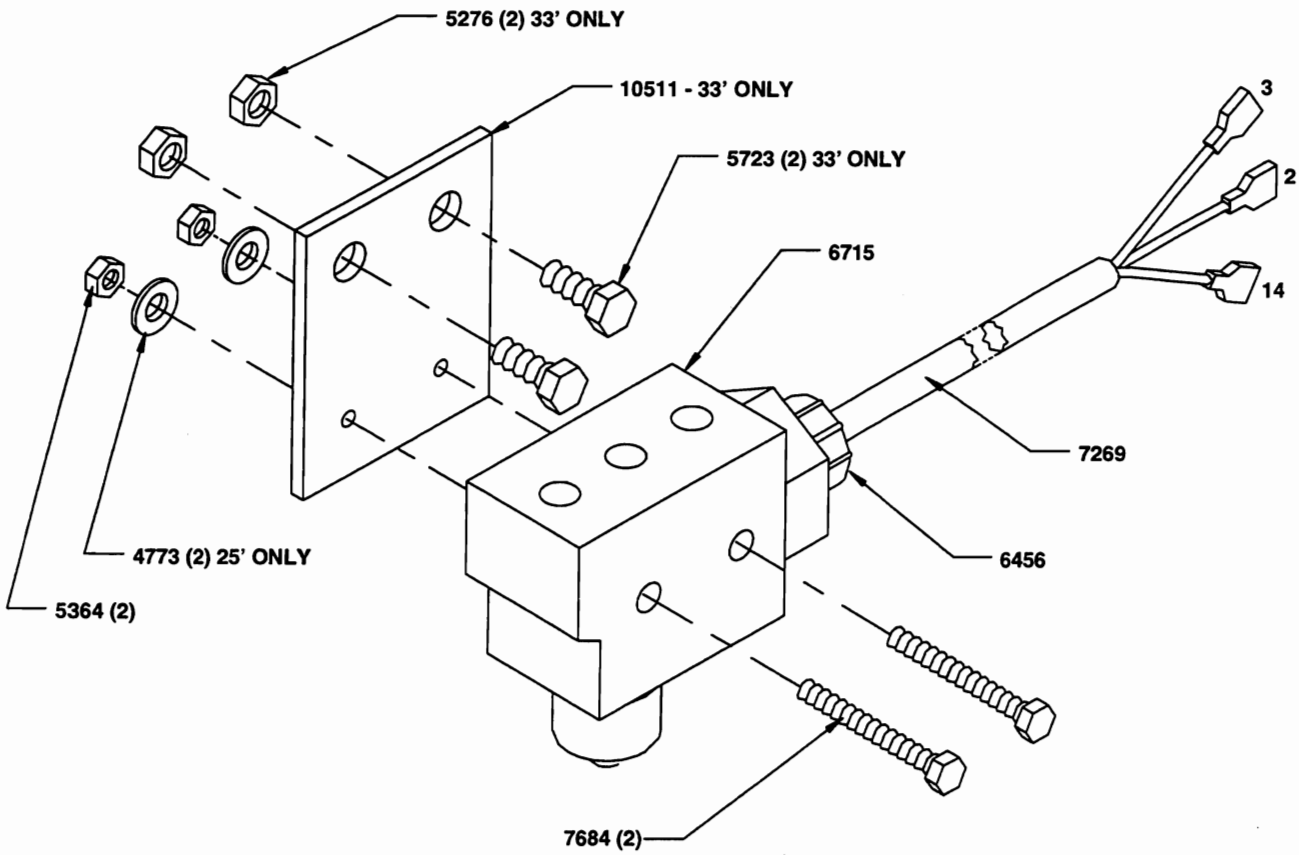
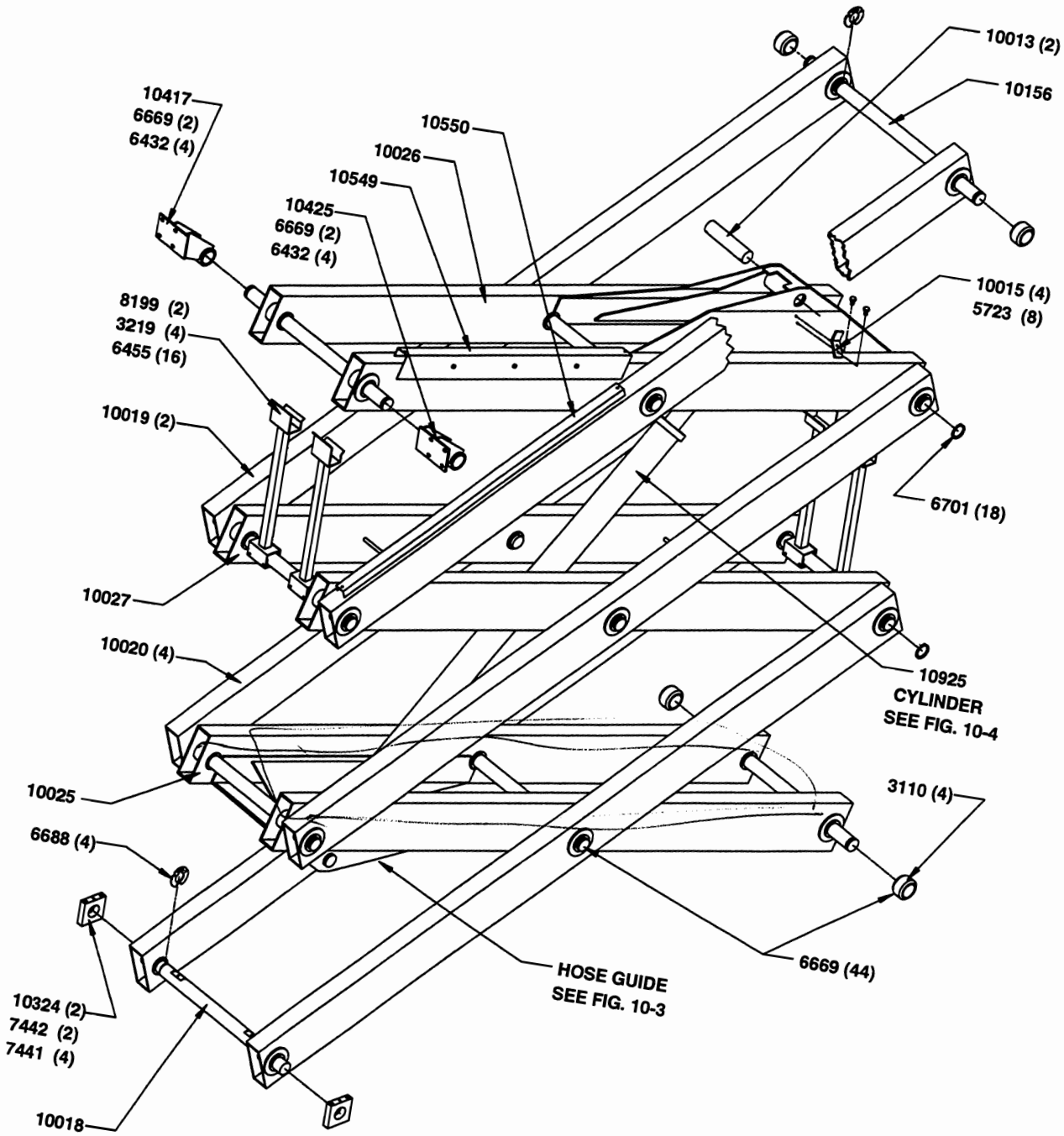


Figure 9-7. Speed Limit Switch



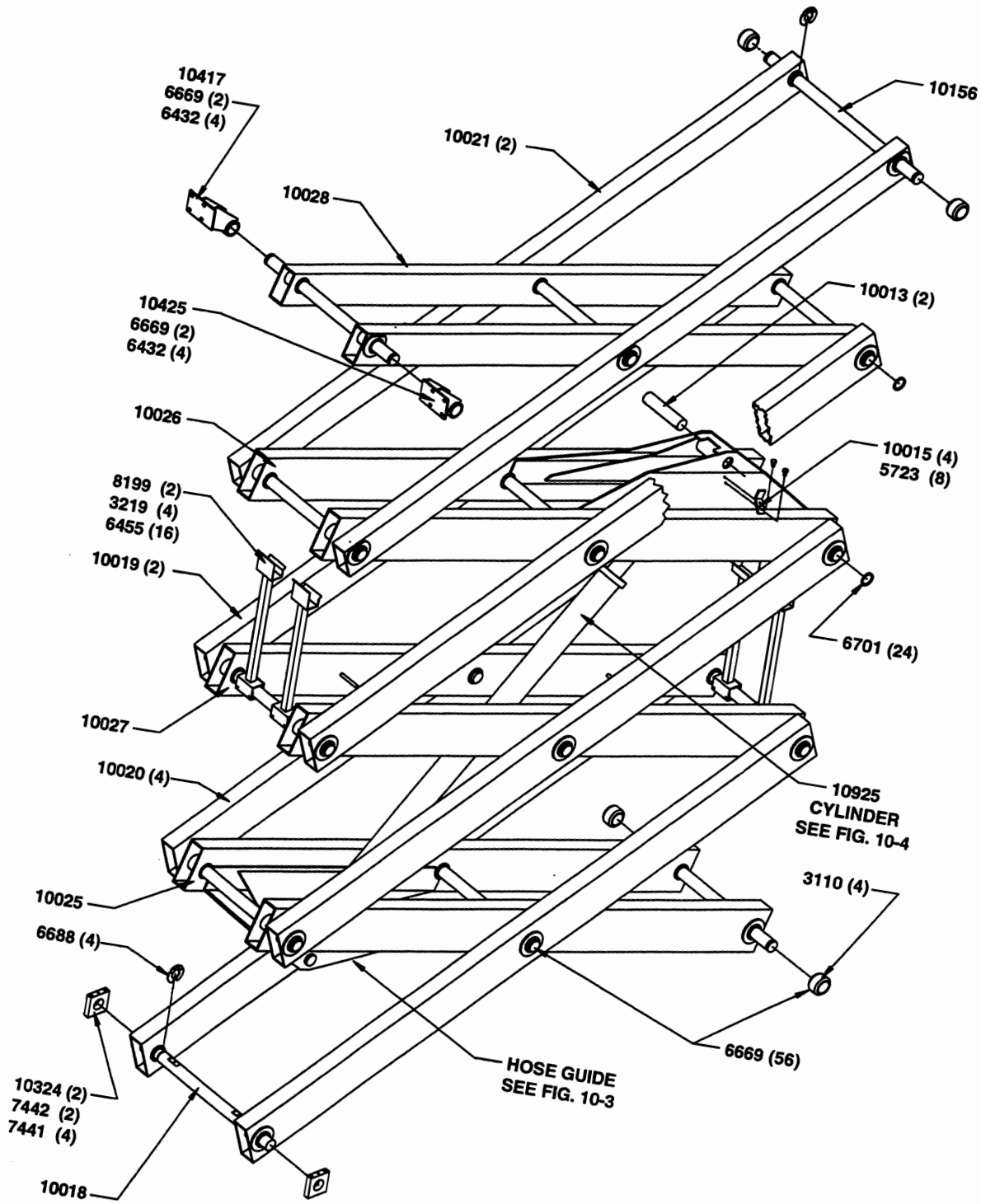
CHAPTER 10
SCISSORS LIFT MECHANISM

Figure 10-1. Beam Section - 25 Feet



ART322
BM4836

Figure 10-2. Beam Section - 33 Feet



ART118

Figure 10-3. Hose Guide

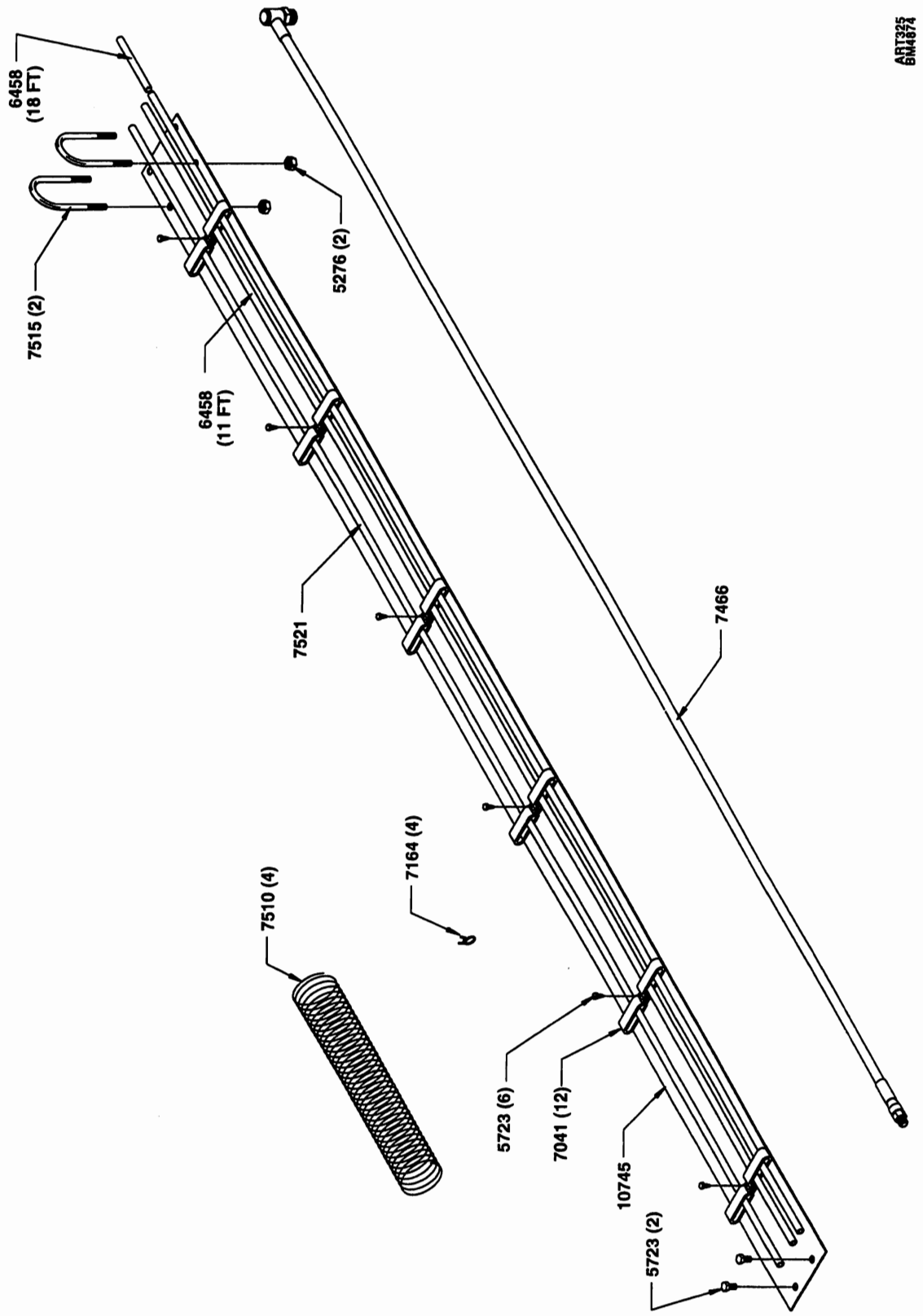
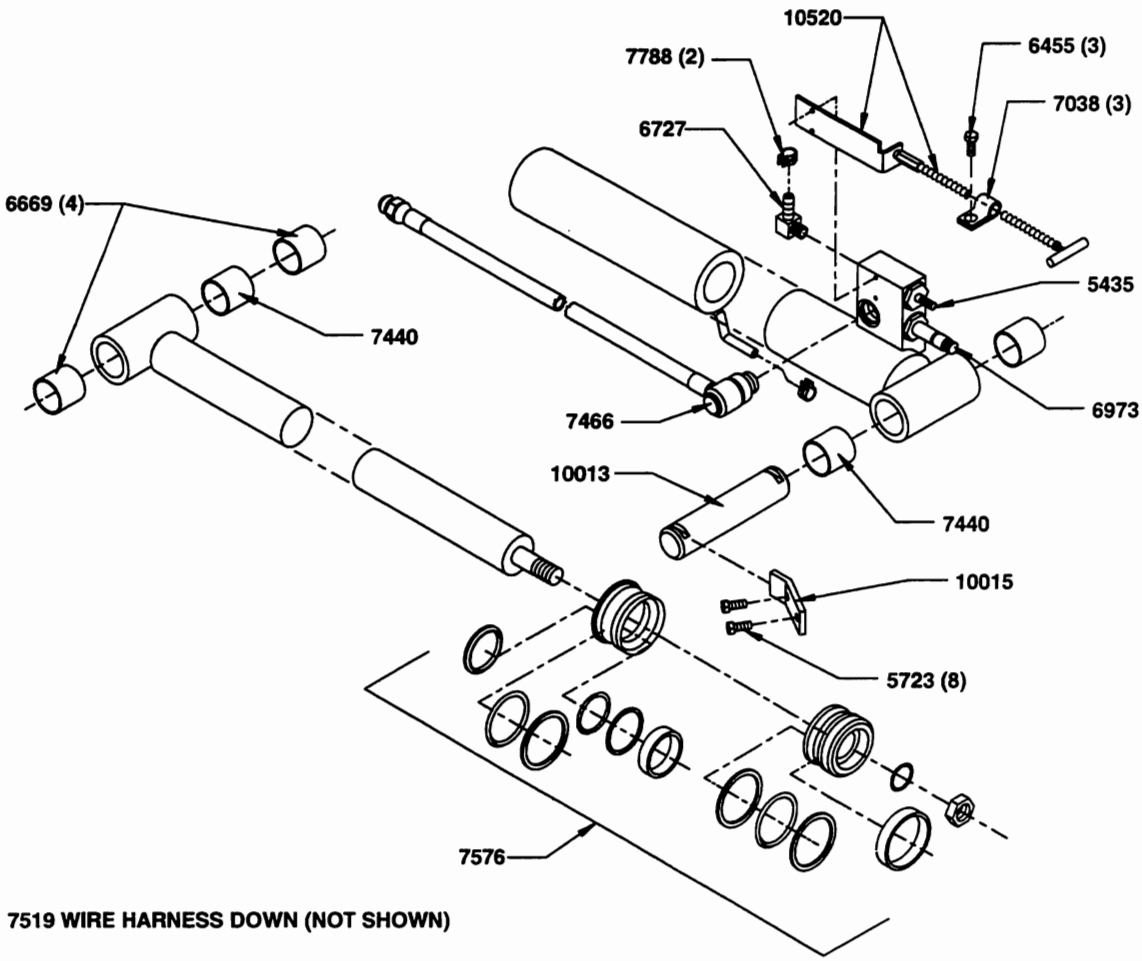


Figure 10-4. Scissors Lift Cylinder



7519 WIRE HARNESS DOWN (NOT SHOWN)

6458 (NOT SHOWN) RETURN HOSE EMERGENCY DOWN - 18 FT LONG.
RETURN HOSE CYLINDER VENT - 11 FT LONG
(ORDER HOSE IN 1 FT INCREMENTS)
7576 SEAL KIT LIFT CYLINDER (SERV.)

ART292

CHAPTER 11
AXLE ASSEMBLY

Figure 11-1. Front Axle Assembly

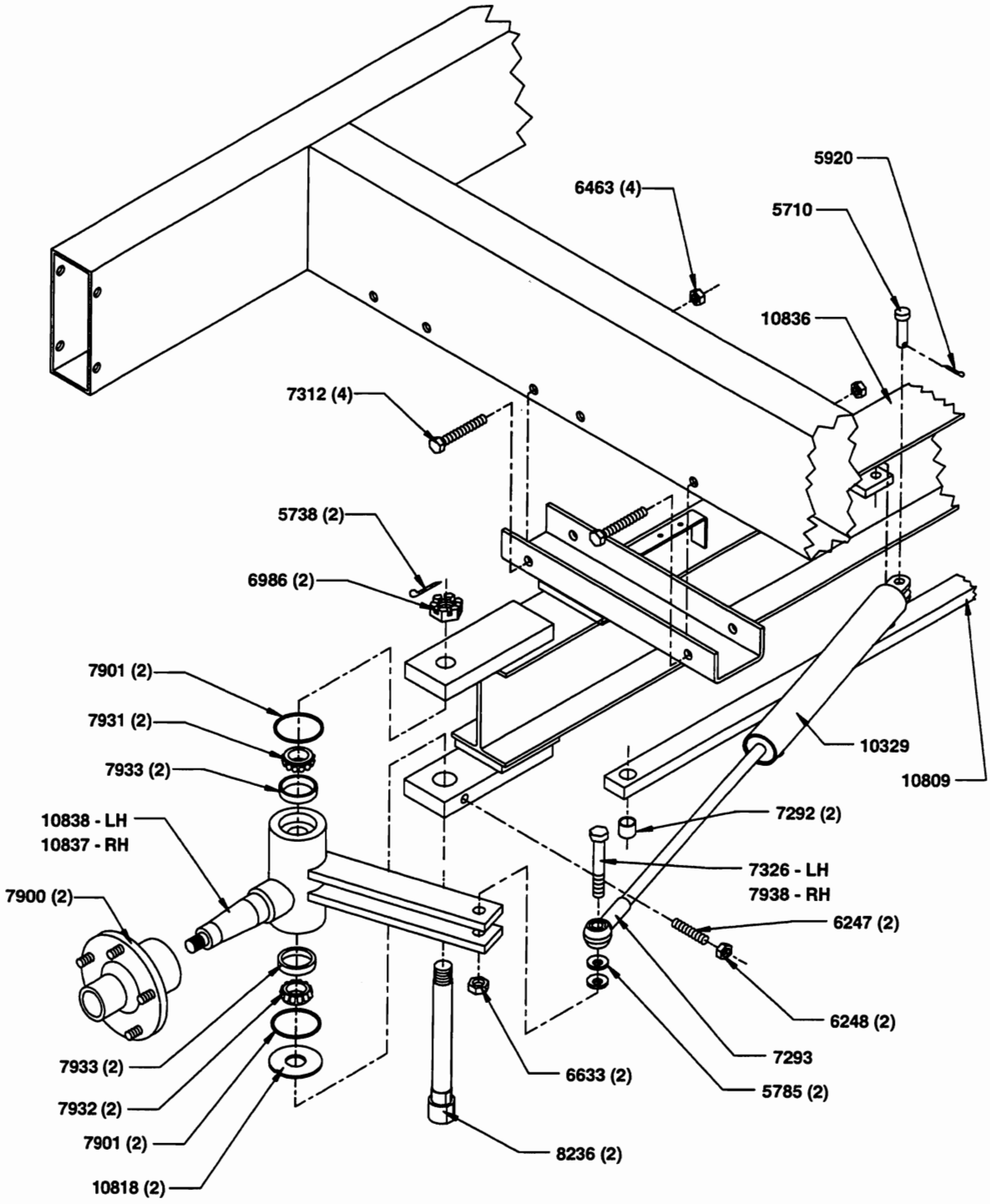


Figure 11-2. Front Wheel Hub and Bearing - 7900

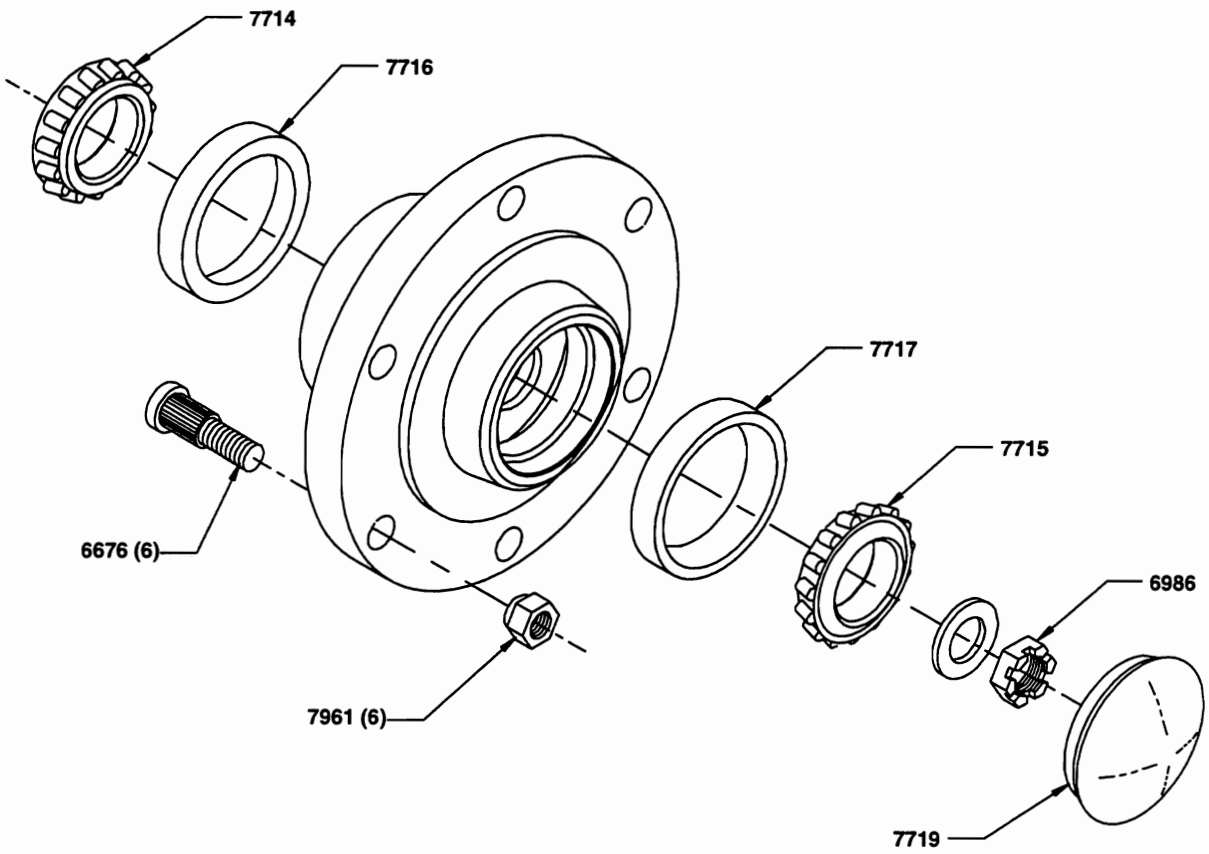


Figure 11-3. Steering Cylinder - 10329

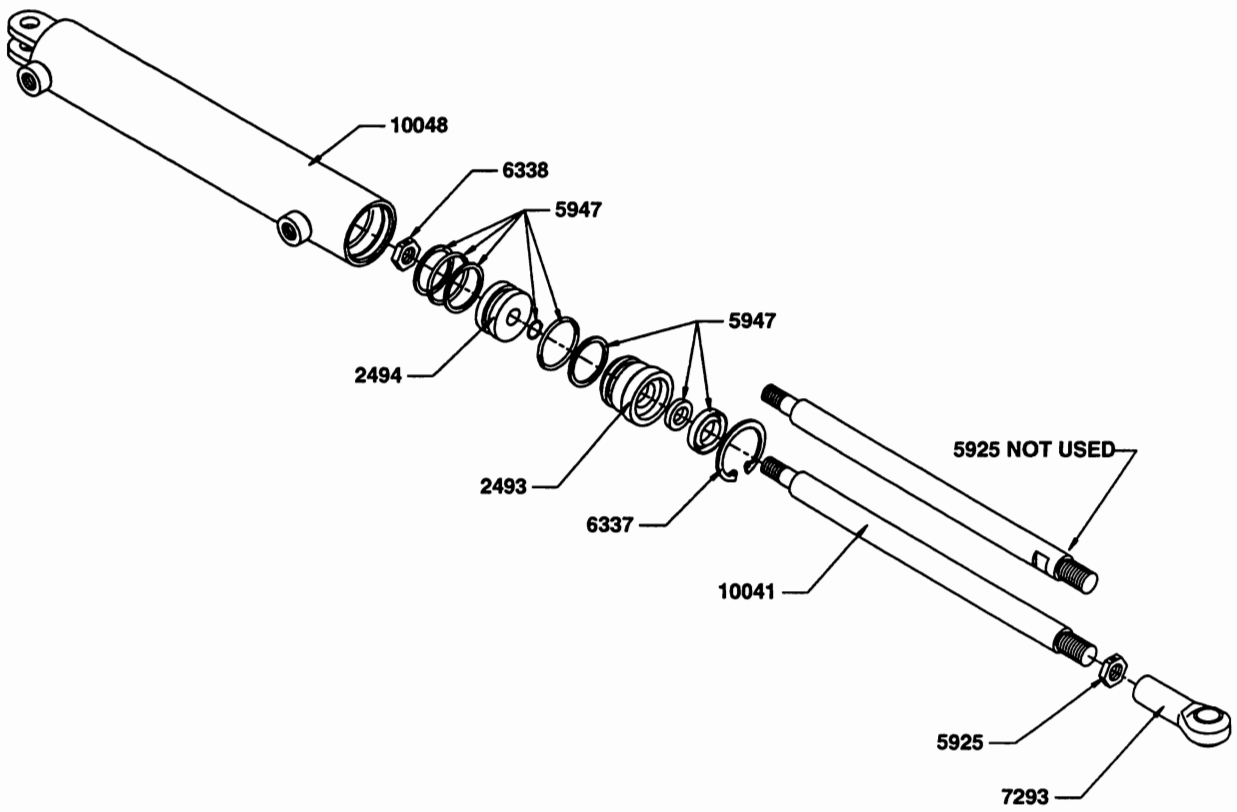


Figure 11-4. Rear Axle Assembly

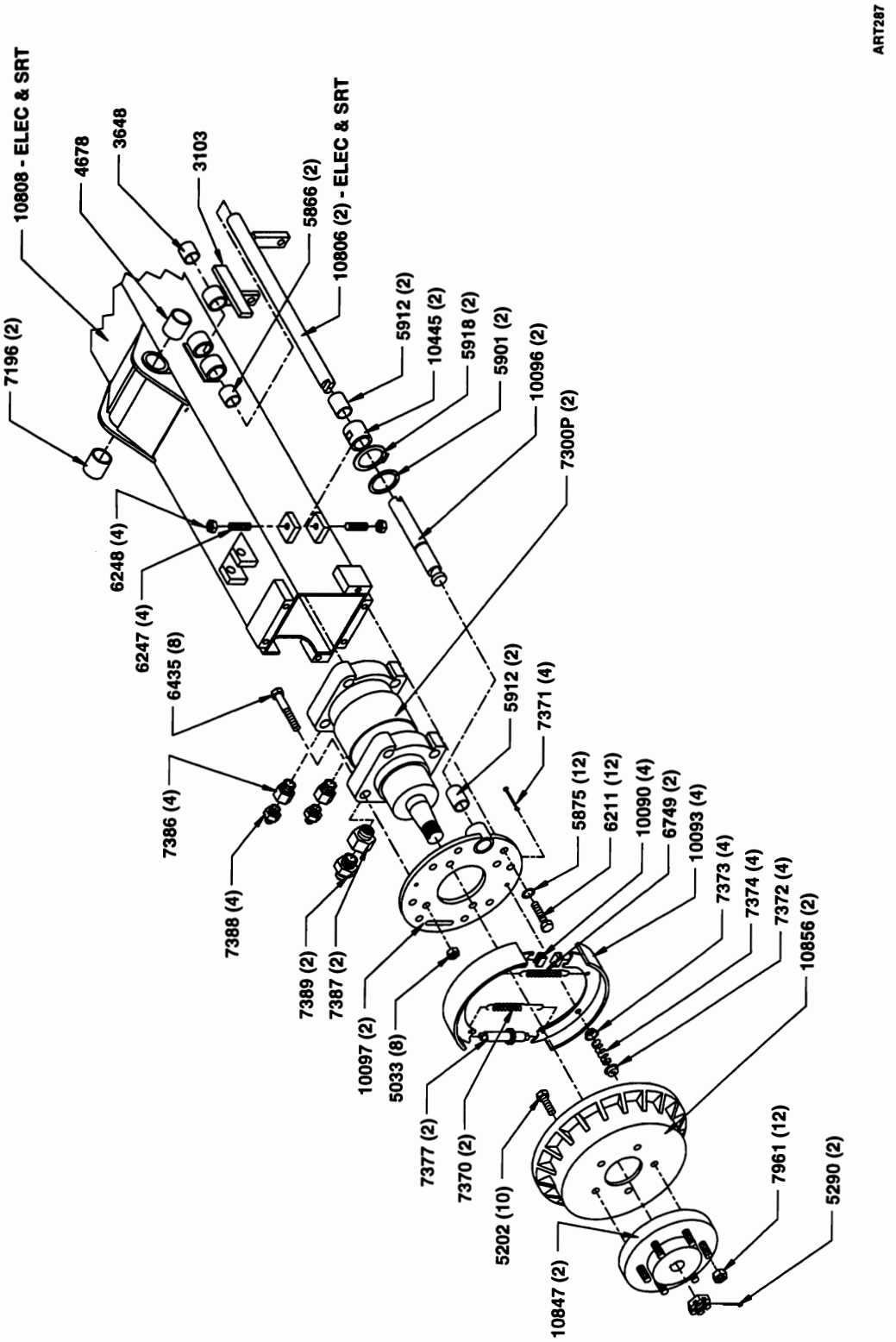


Figure 11-5. Oscillating Axle Mount

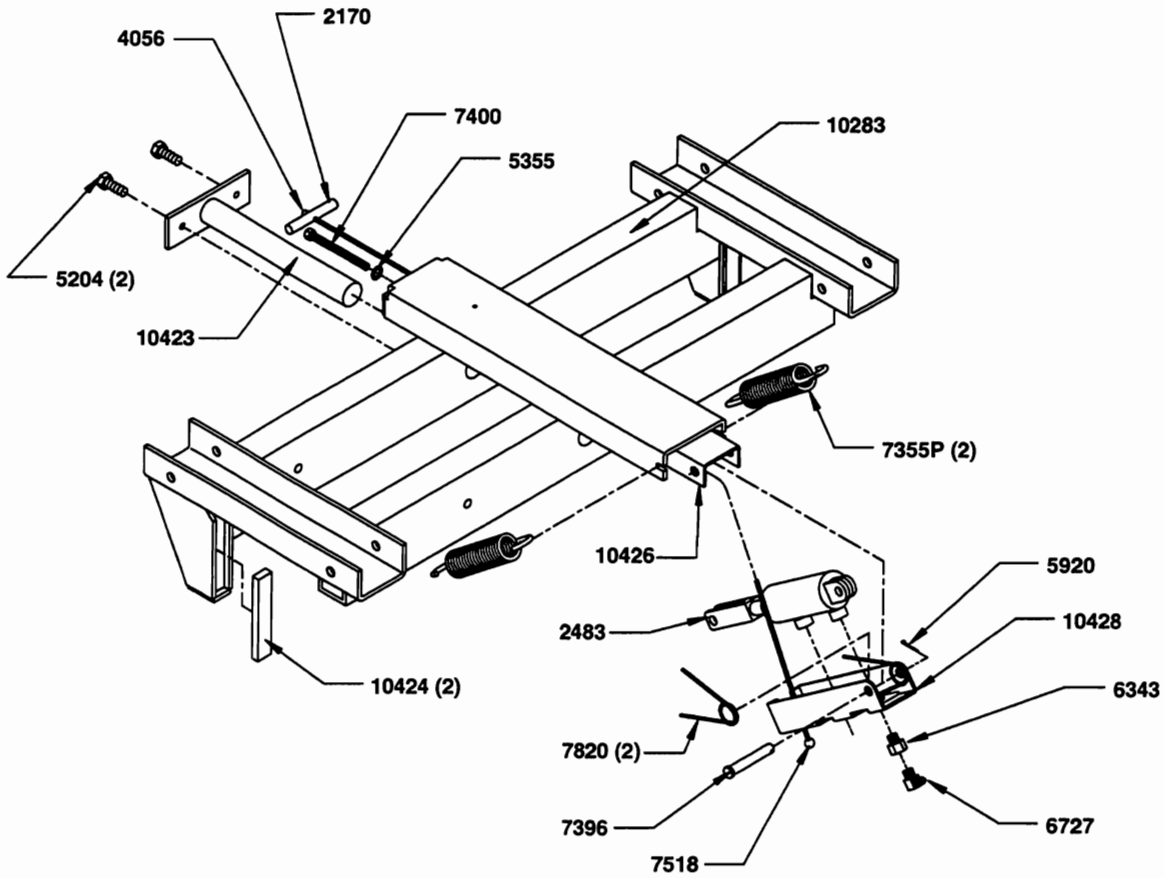


Figure 11-6. Brake Cylinder - 2483

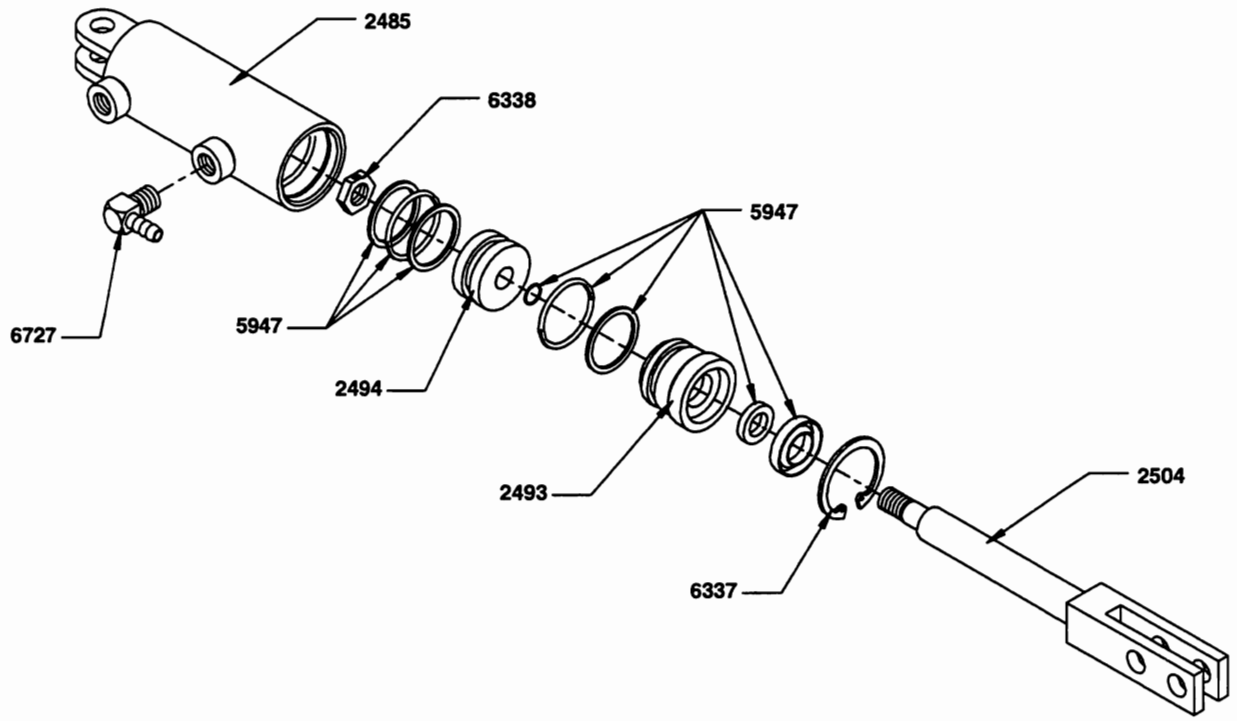


Figure 11-7. Axle Lock Mechanism

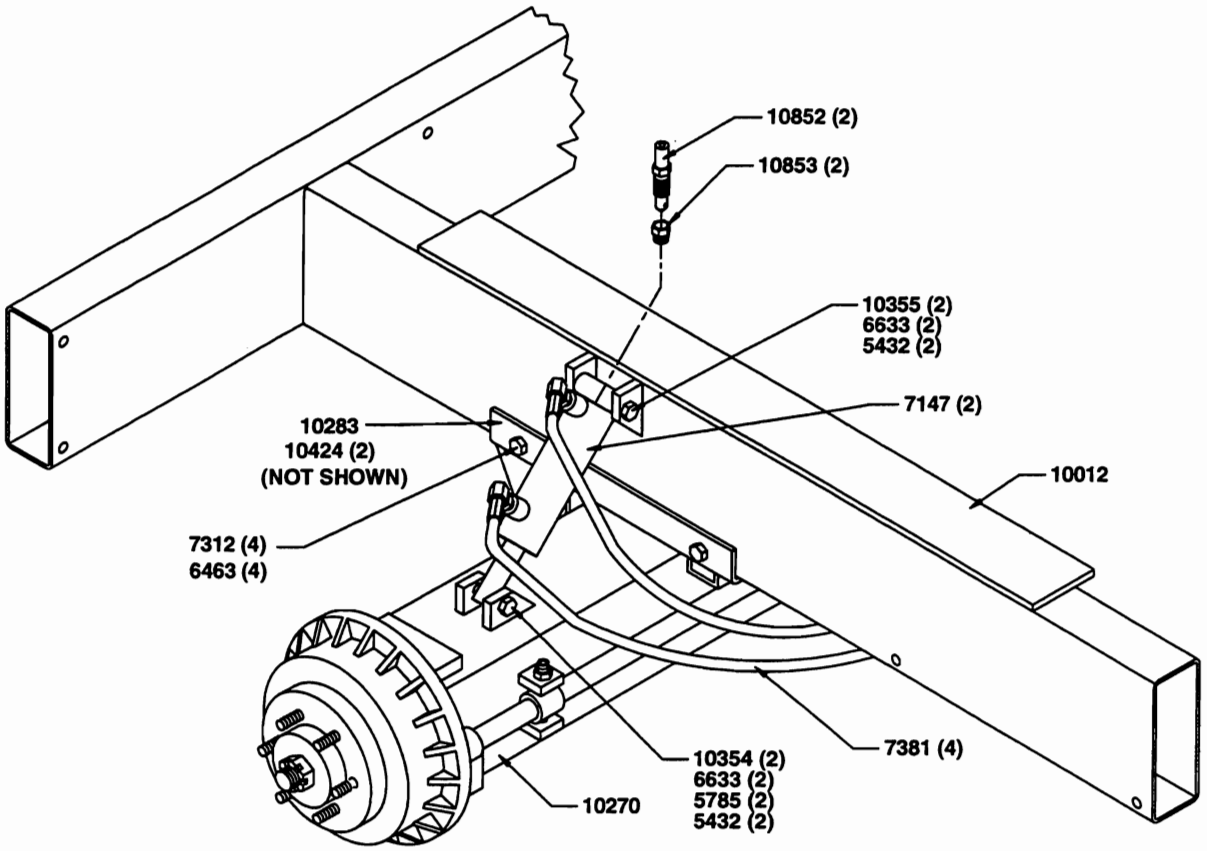


Figure 11-8. Rear Step

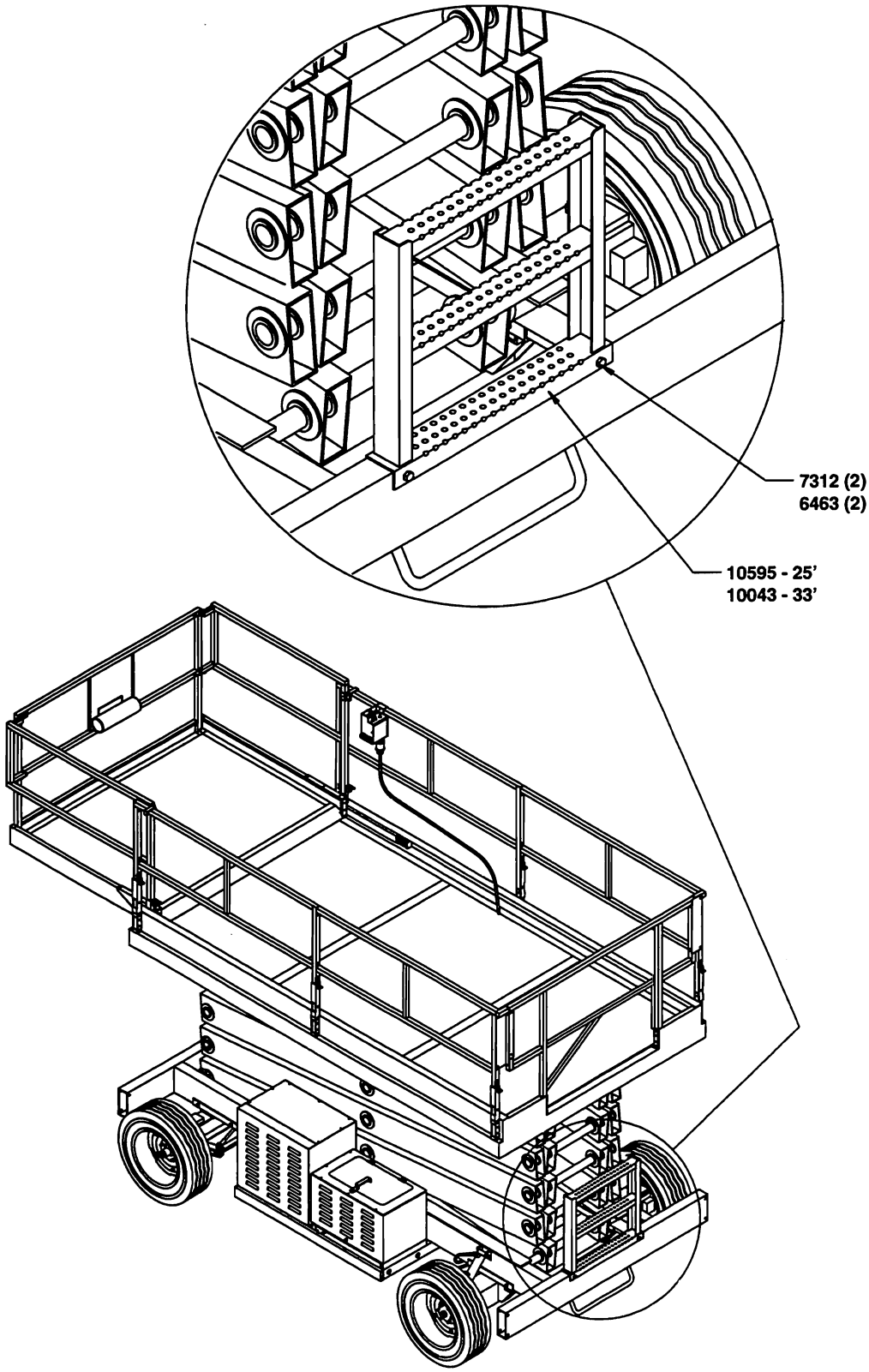
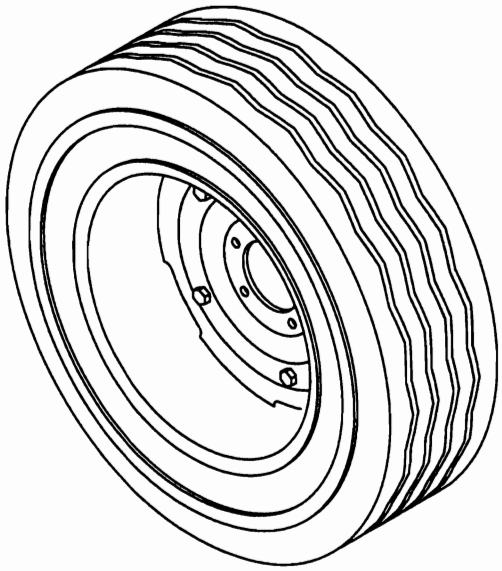
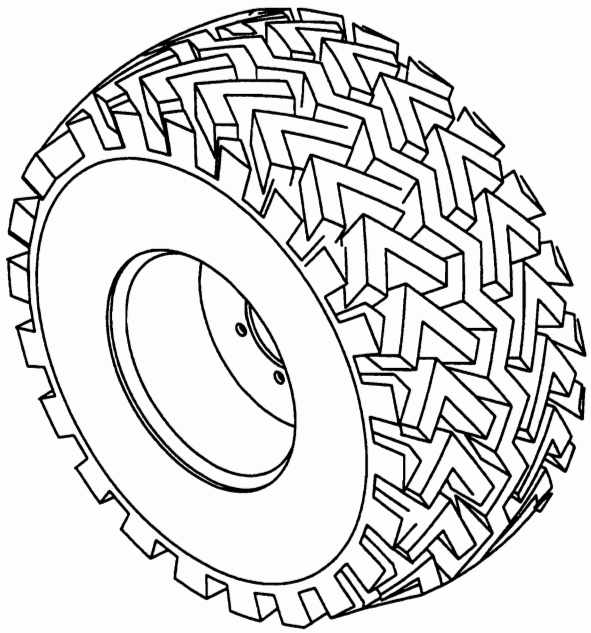


Figure 11-9. Tires





QUAD ELECTRIC

7700 W/ PUNCTURE SEALANT *
7701 FOAM FILLED
7870 SOLID RUBBER
7923 SOLID RUBBER - NON MARRING

QUAD SRT

7283 RIGHT HAND W/ PUNCTURE SEALANT *
7290 LEFT HAND W/ PUNCTURE SEALANT *
8087 RIGHT HAND - FOAM FILLED
8088 LEFT HAND - FOAM FILLED

* NOTE: PUNCTURE SEALANT IS TYRETYTE II TIRE SEALANT. FOR MORE INFORMATION:

TYRETYTE INTL. TIRE SEALANT
P.O. BOX 506
CAMPBEL, CA 95009
(408) 993-1010

ART378
BM5259

CHAPTER 12
COMPARTMENTS - DUAL FUEL UNITS

Figure 12-1. Compartments and Panels

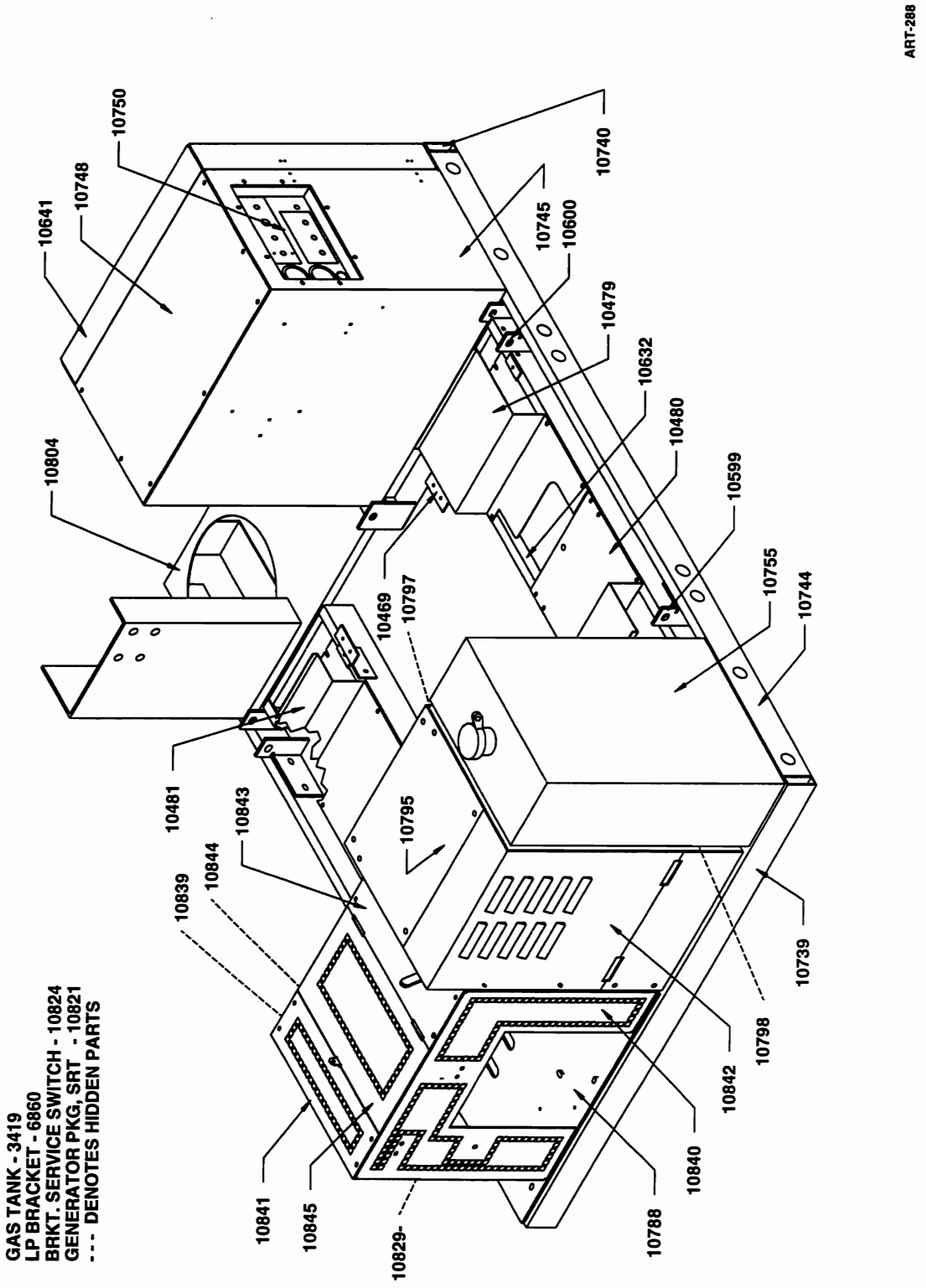


Figure 12-2. Compartment Bases

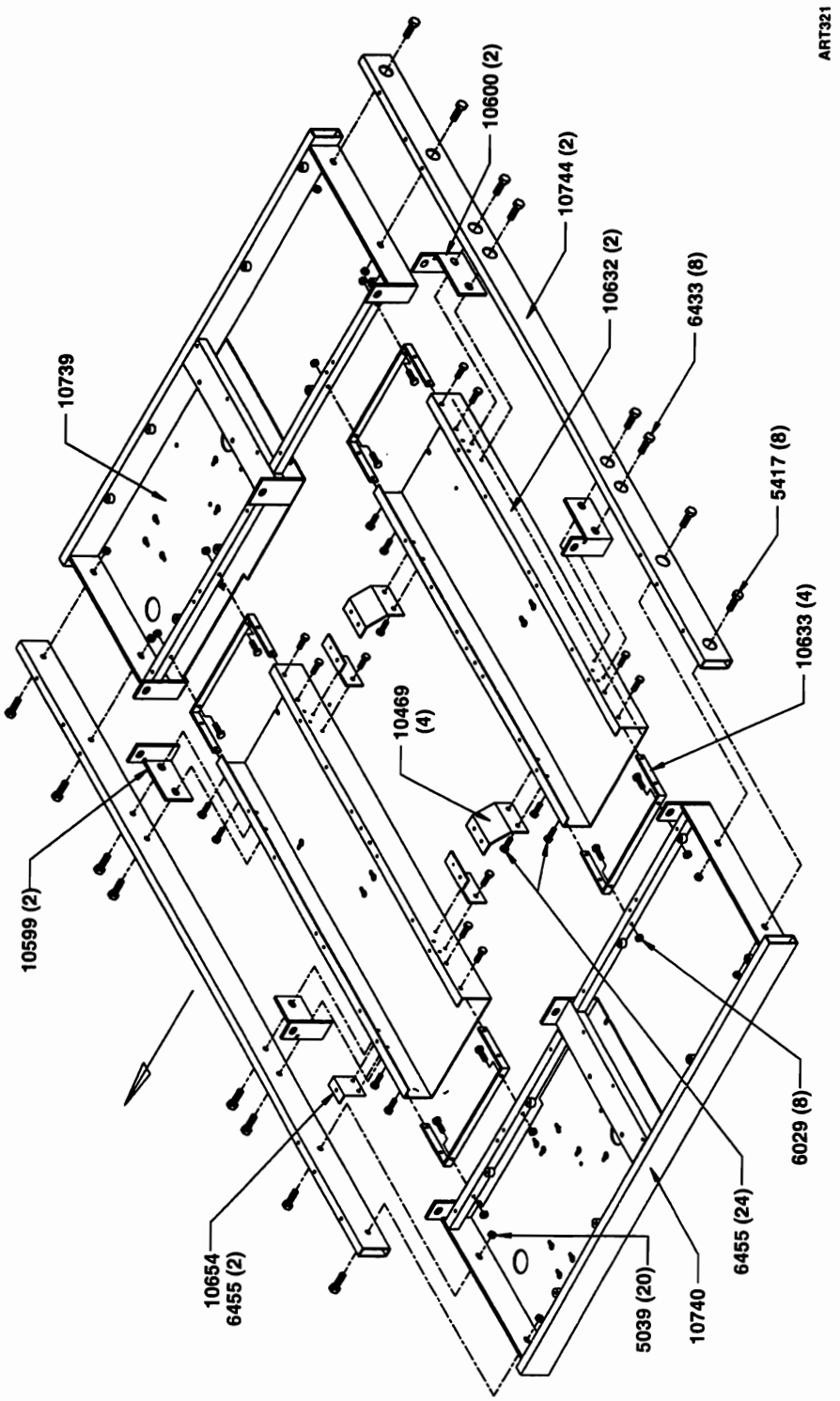
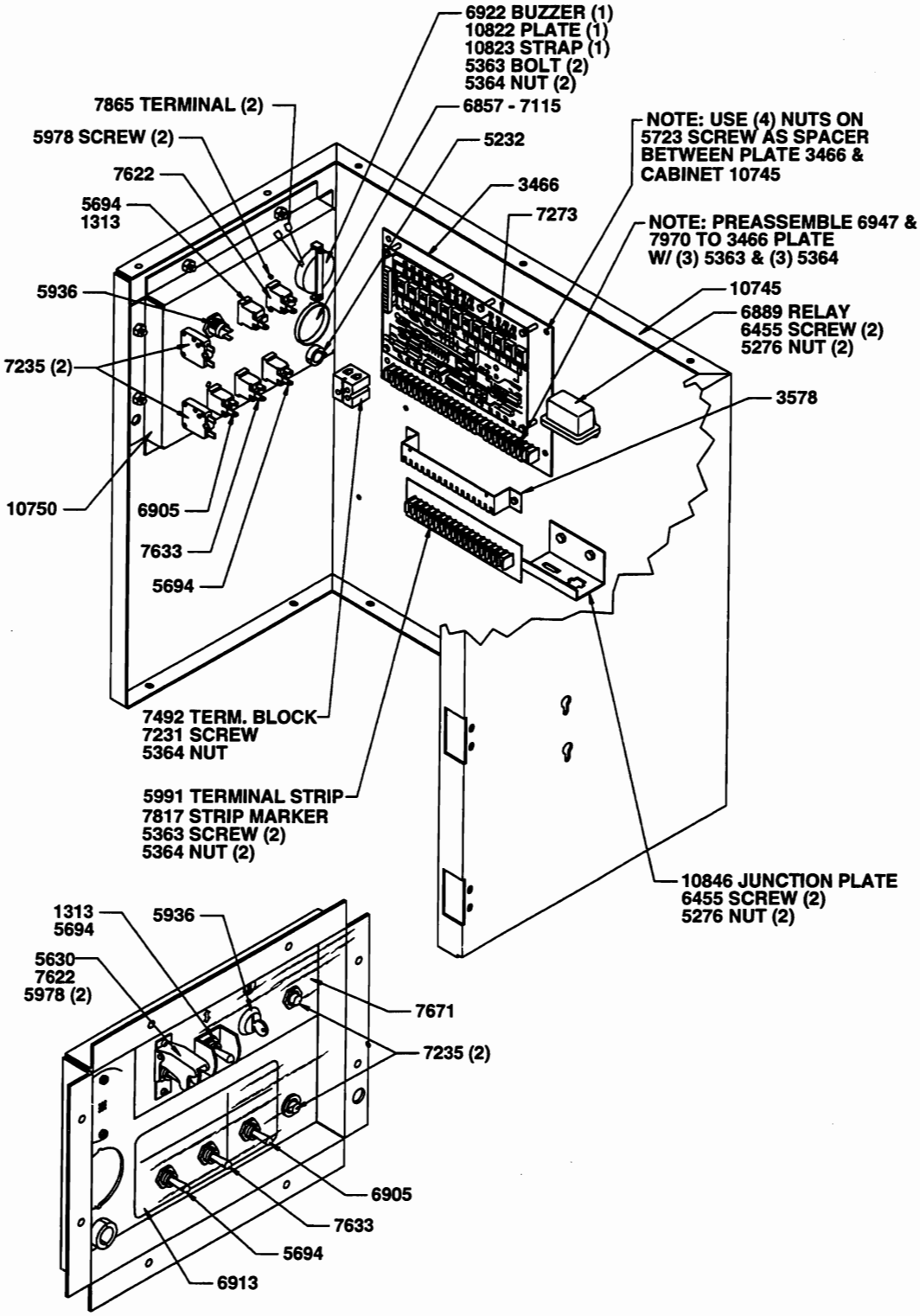
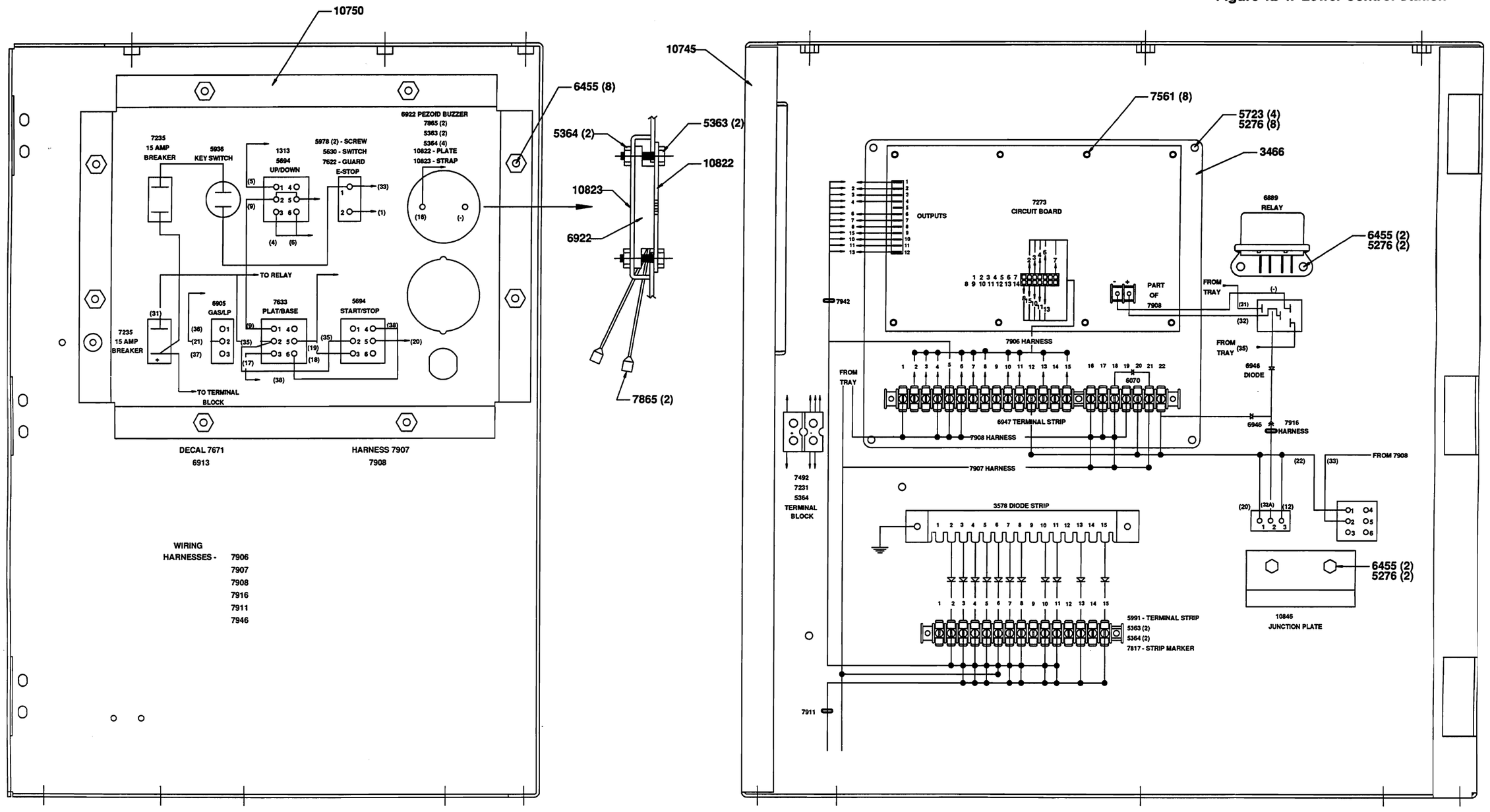


Figure 12-3. Lower Electric Cabinet



ART301
BM4935

Figure 12-4. Lower Control Station



ART304

Figure 12-5. Fuel Tanks Assembly

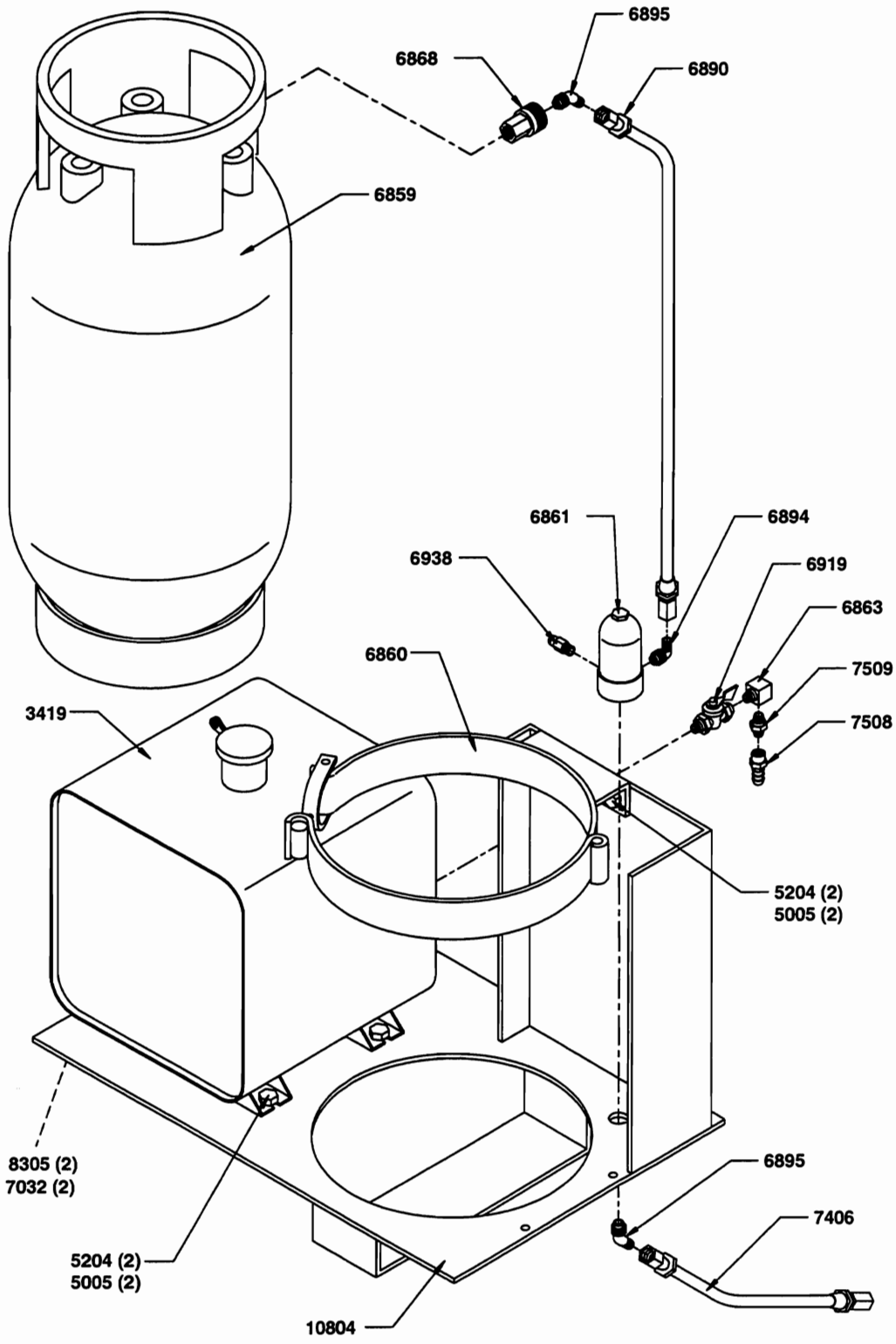


Figure 12-6. Hydraulic Fluid Reservoir

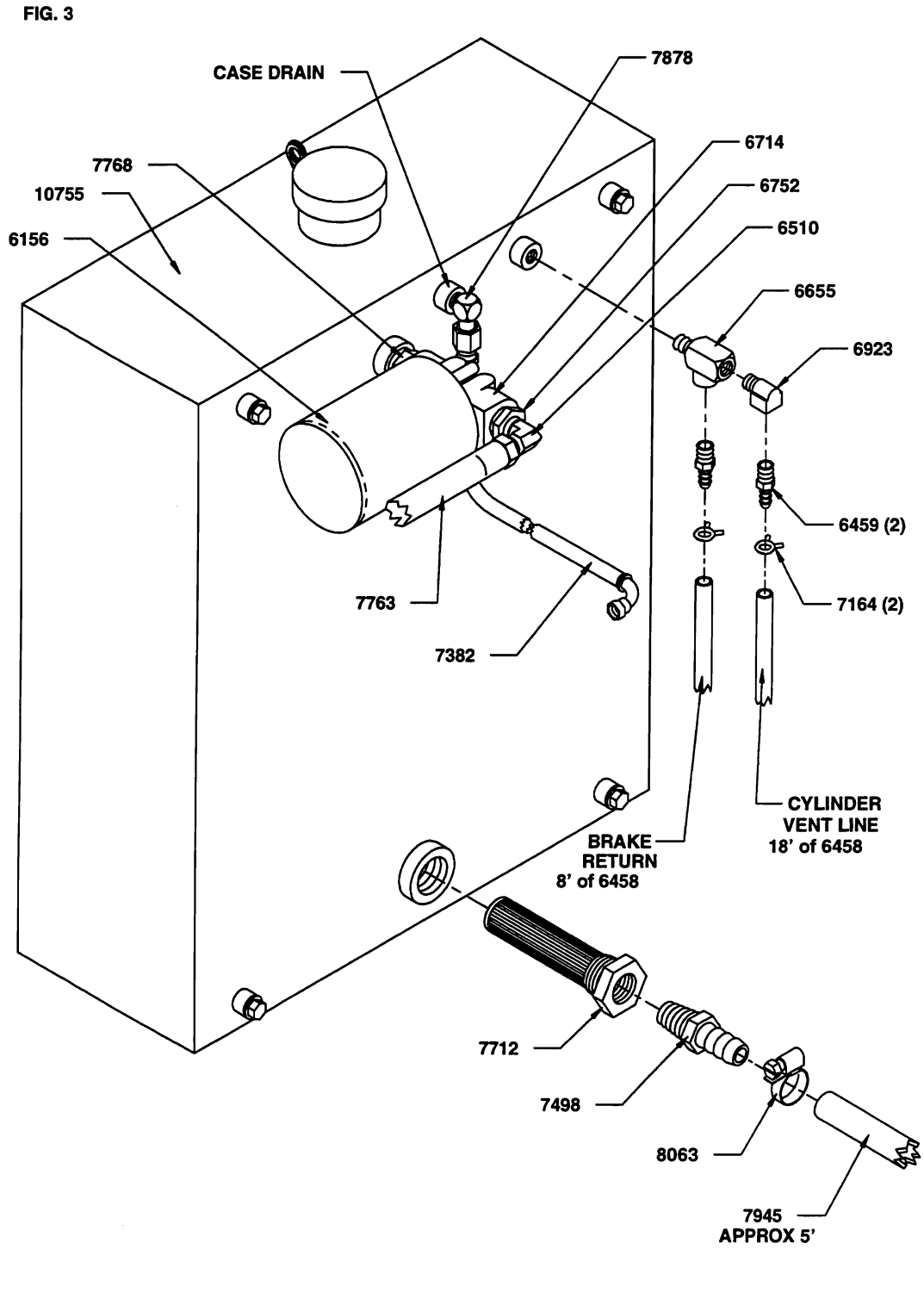
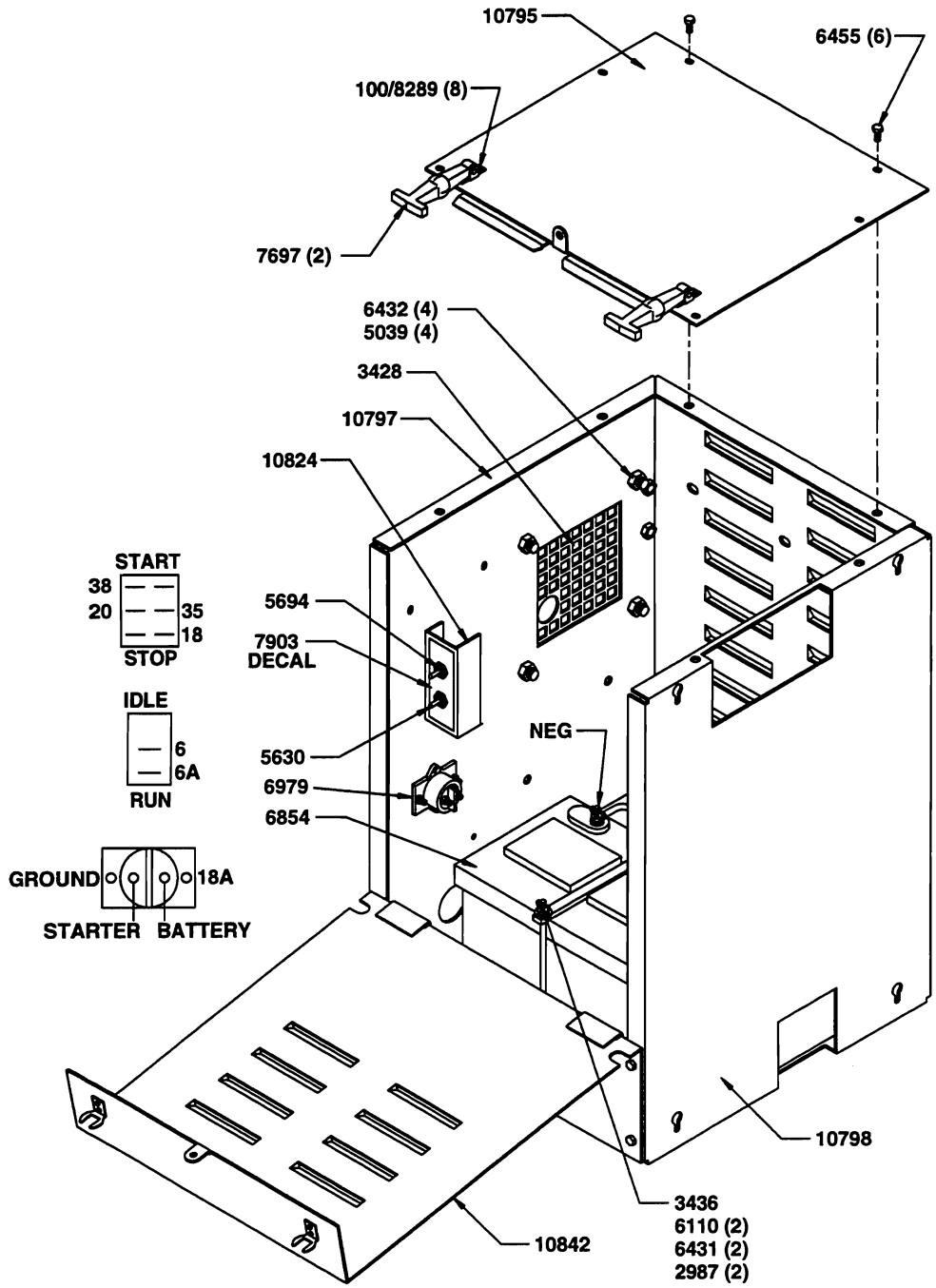
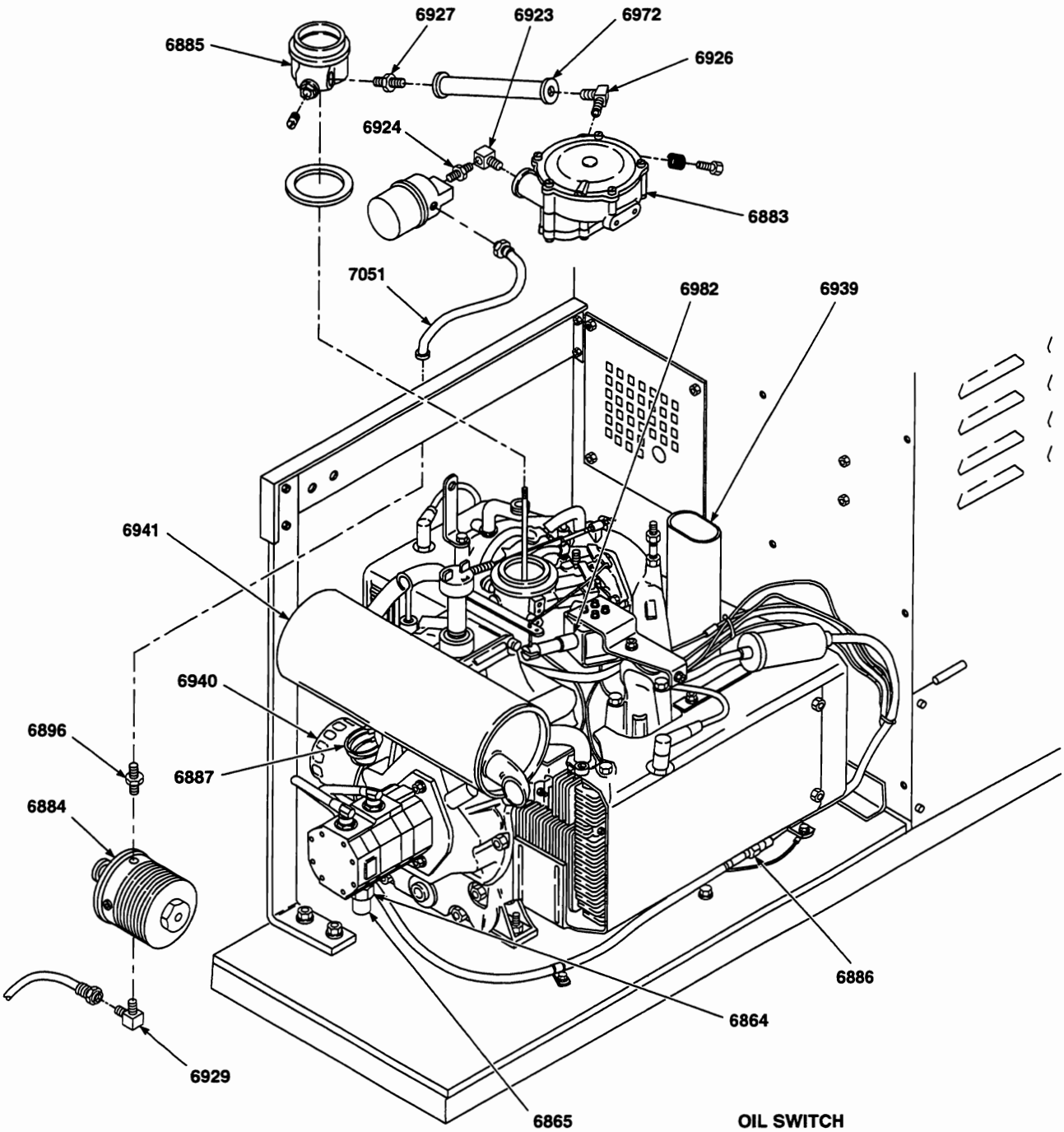


Figure 12-7. Battery Box Assembly



ART-323
BM4853

Figure 12-8. Engine Assembly



6853 ENGINE
6942 AIR FILTER (NOT SHOWN)
6979 SOLENOID/START (NOT SHOWN)
7945 SUCTION HOSE (NOT SHOWN)

OIL SWITCH
35 COM / 16 NC / 21 NO

THROTTLE
6 — 38 KILL (WHITE)
— + BLACK
A +

CHOKE
35 — 36 L.P.
21 — 16

ART361

Figure 12-9. Engine Panels and Generator Option

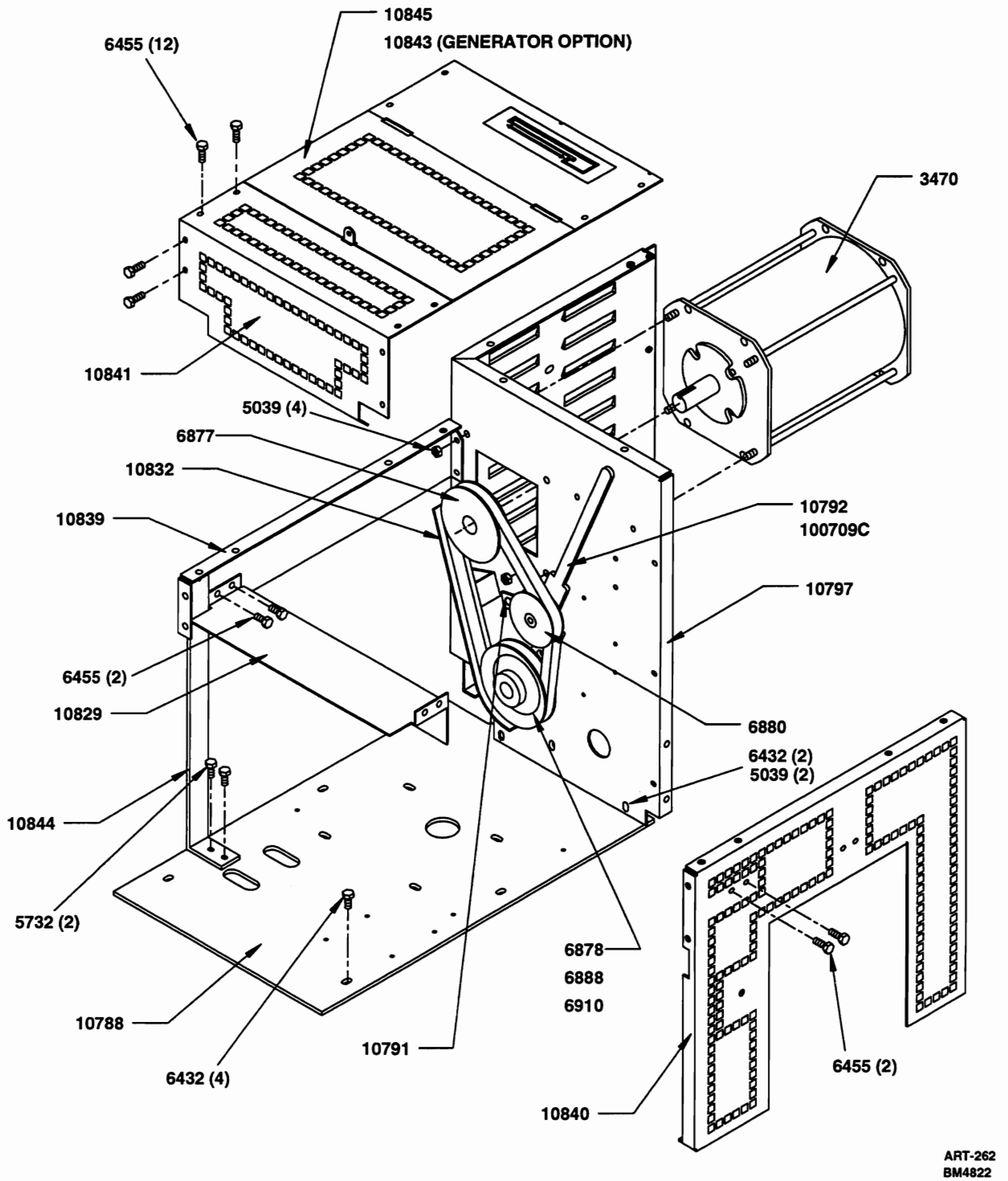


Figure 12-10. Emergency Down Control and Axle Lock Height Limit Switch

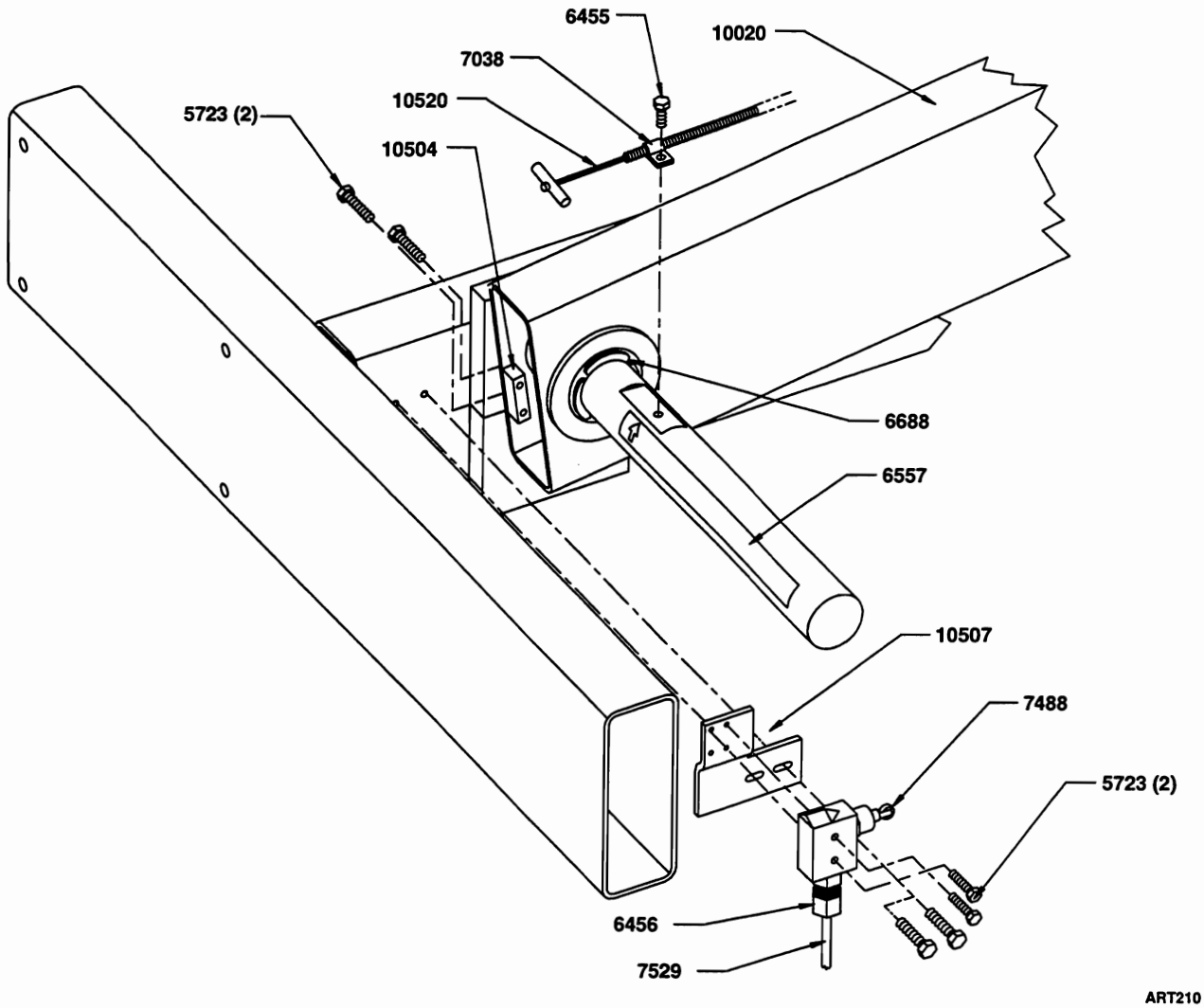
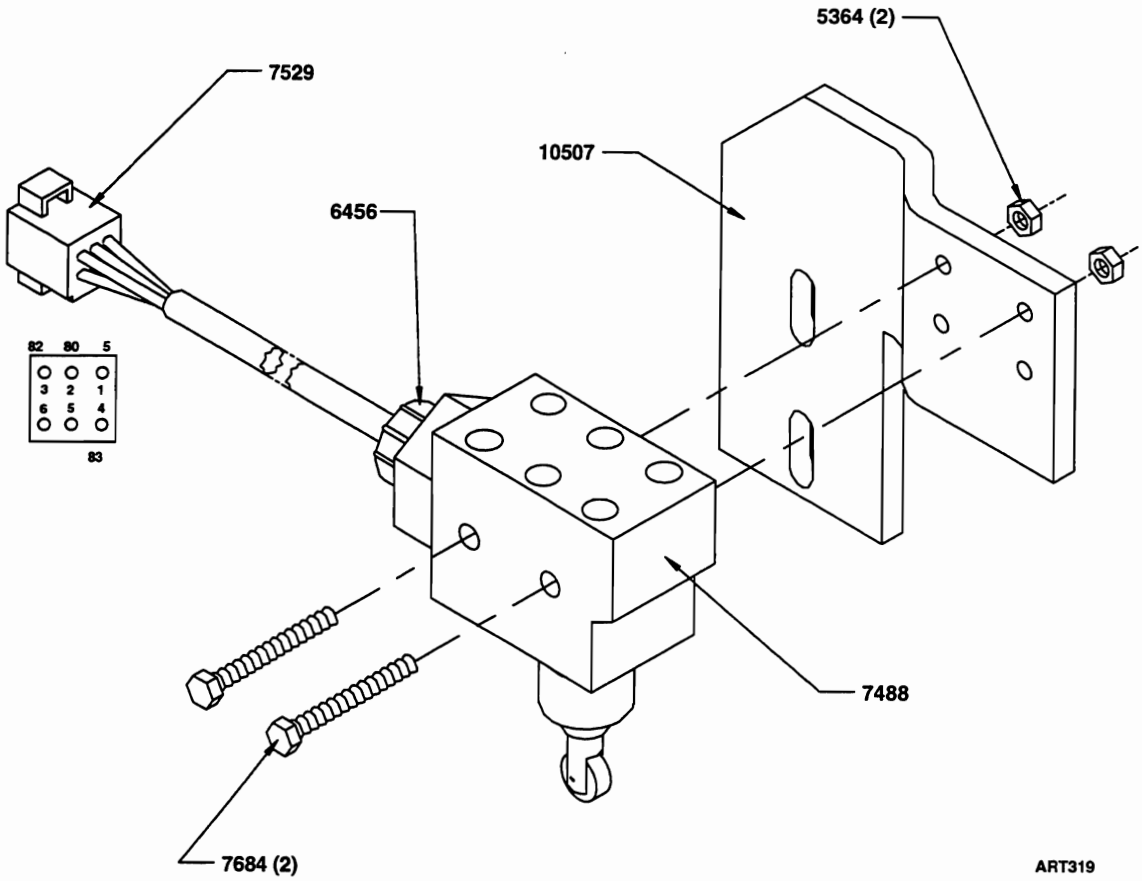


Figure 12-11. Height Limit Switch Assembly - 10732



CHAPTER 13
COMPARTMENTS - ELECTRIC UNITS

Figure 13-1. Compartments and Panels

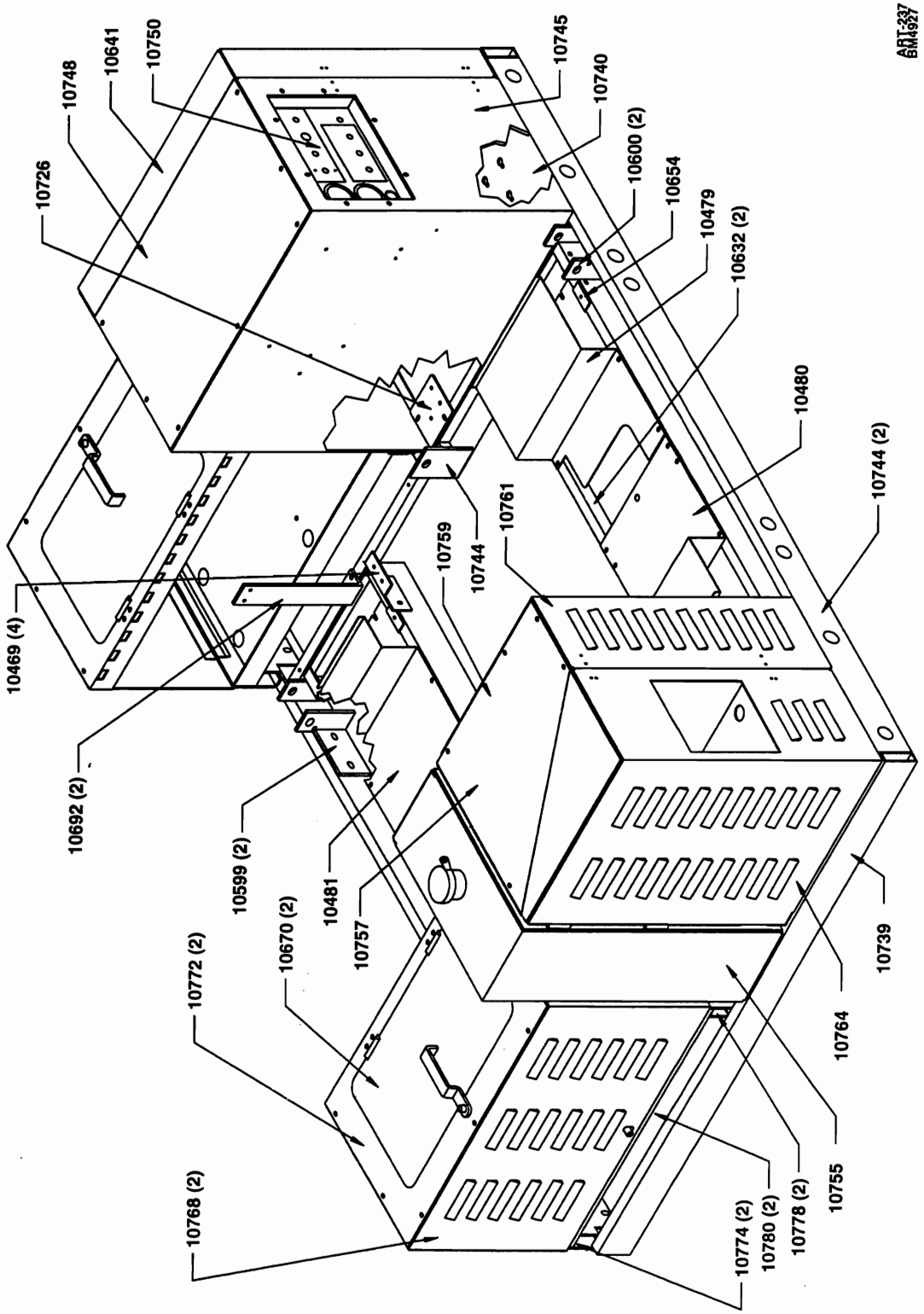


Figure 13-2. Compartment Bases

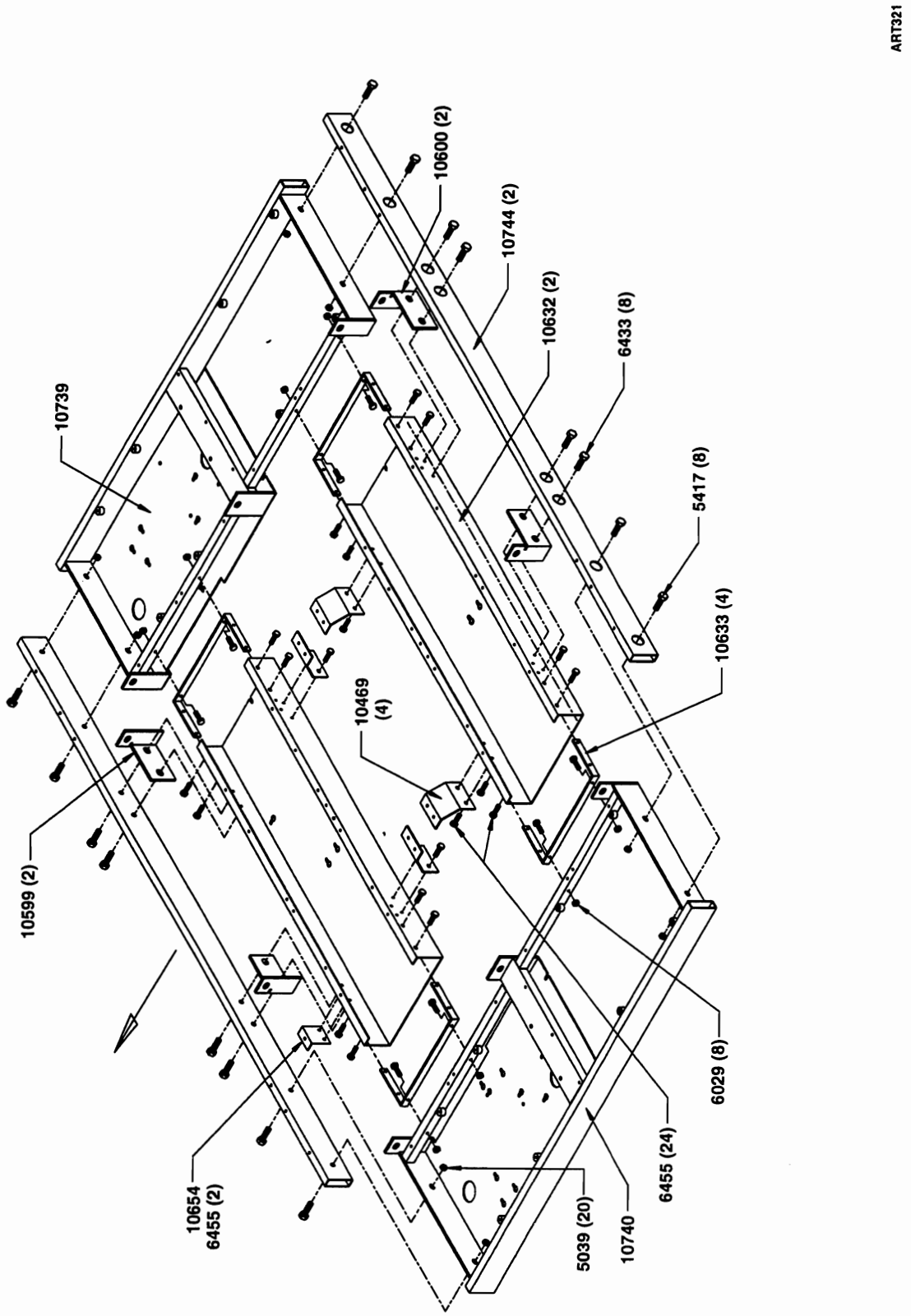


Figure 13-3. Lower Electric Cabinet

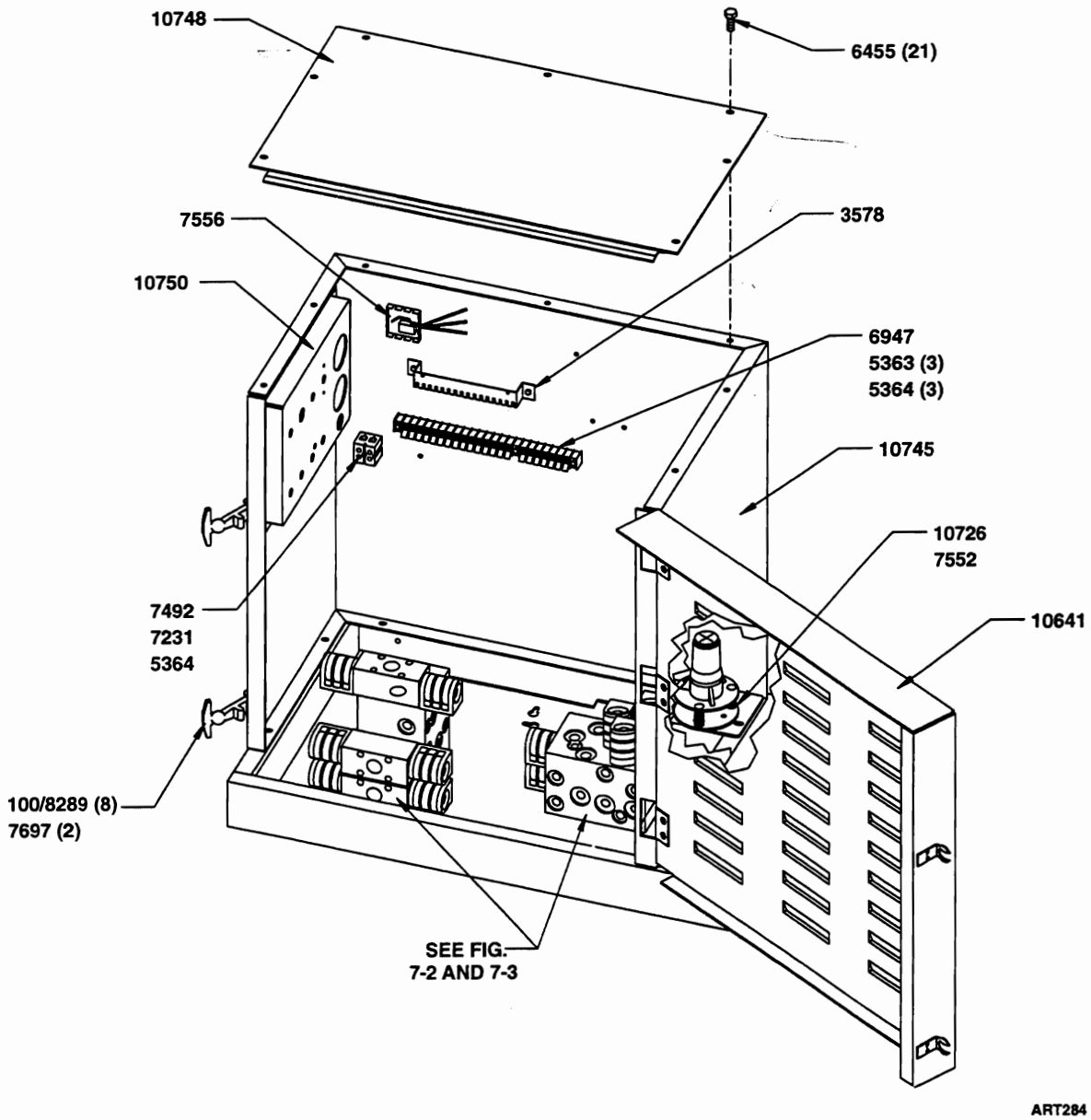


Figure 13-4. Lower Control Station

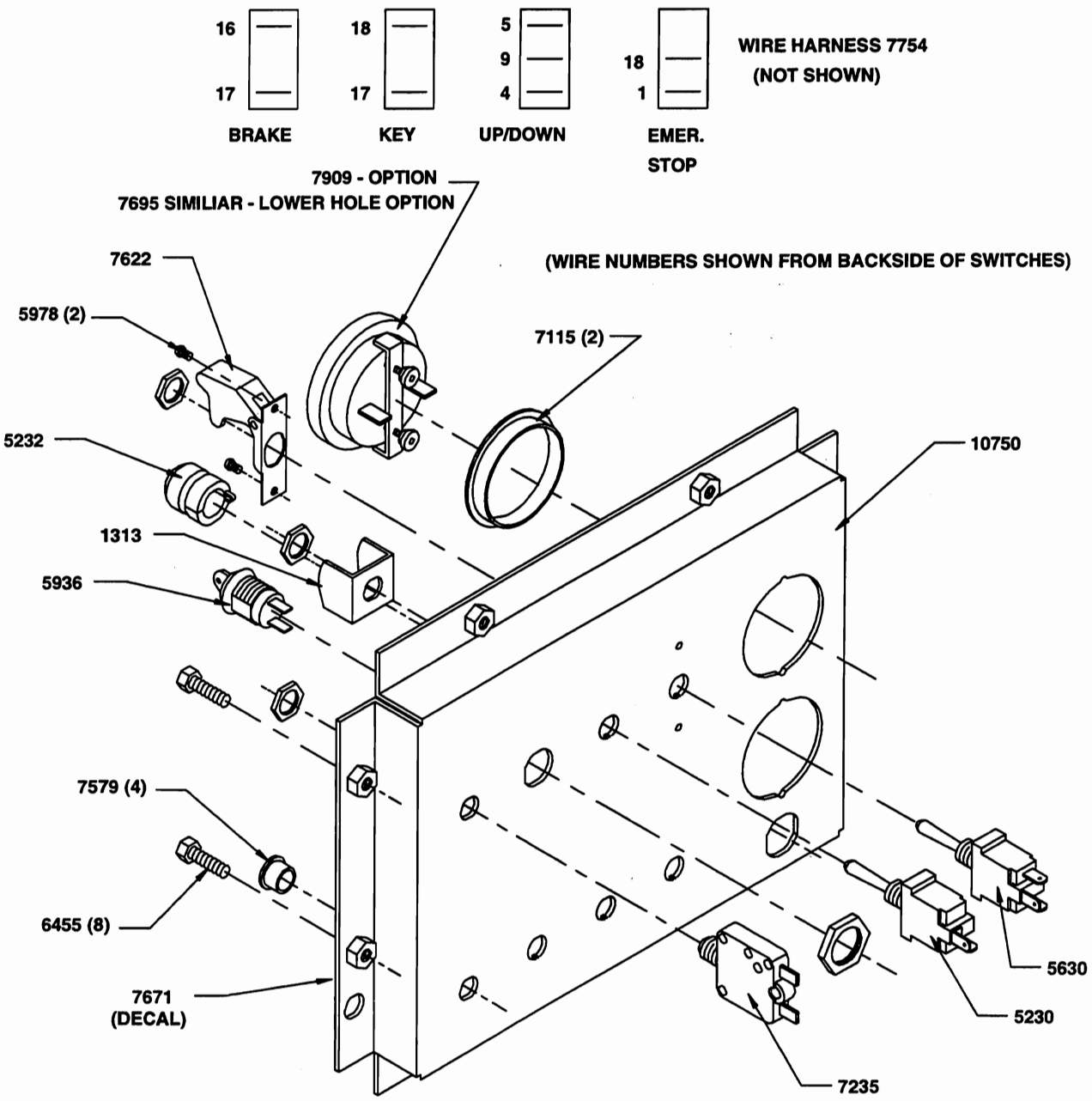


Figure 13-5. Motors Assembly and Battery Charger

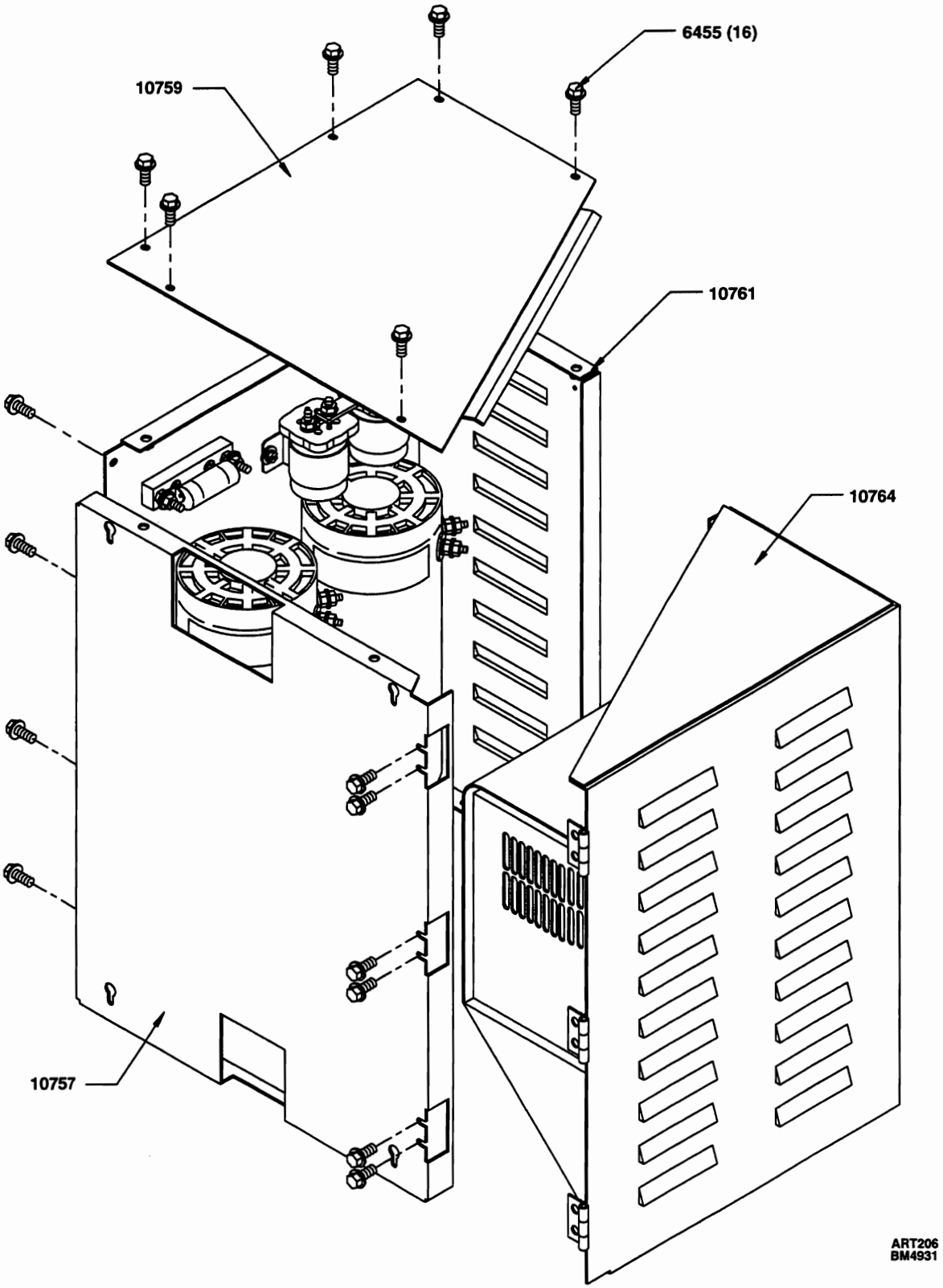


Figure 13-6. Motors Assembly

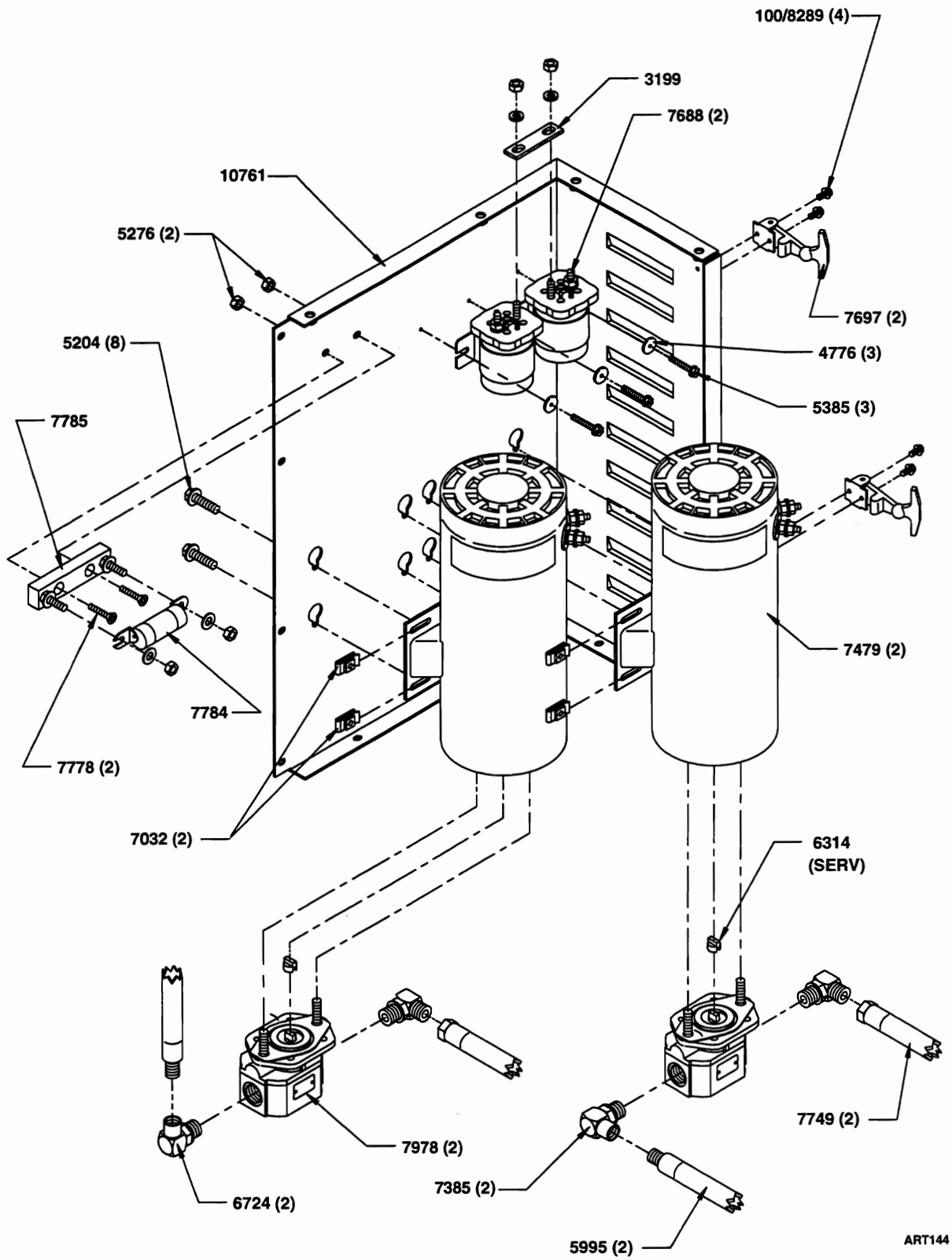


Figure 13-7. Battery Charger and Panel Assembly

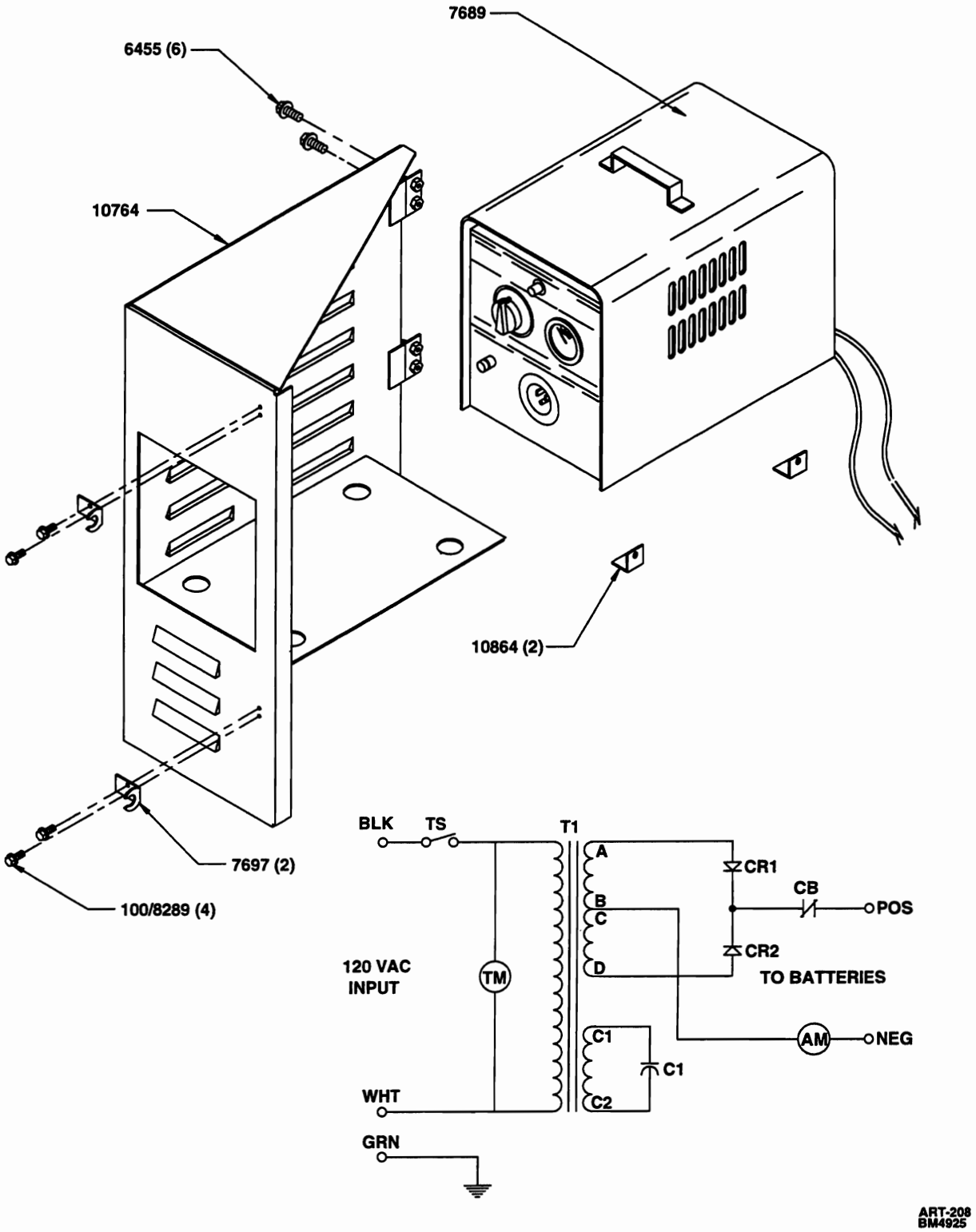


Figure 13-8. Battery Charger

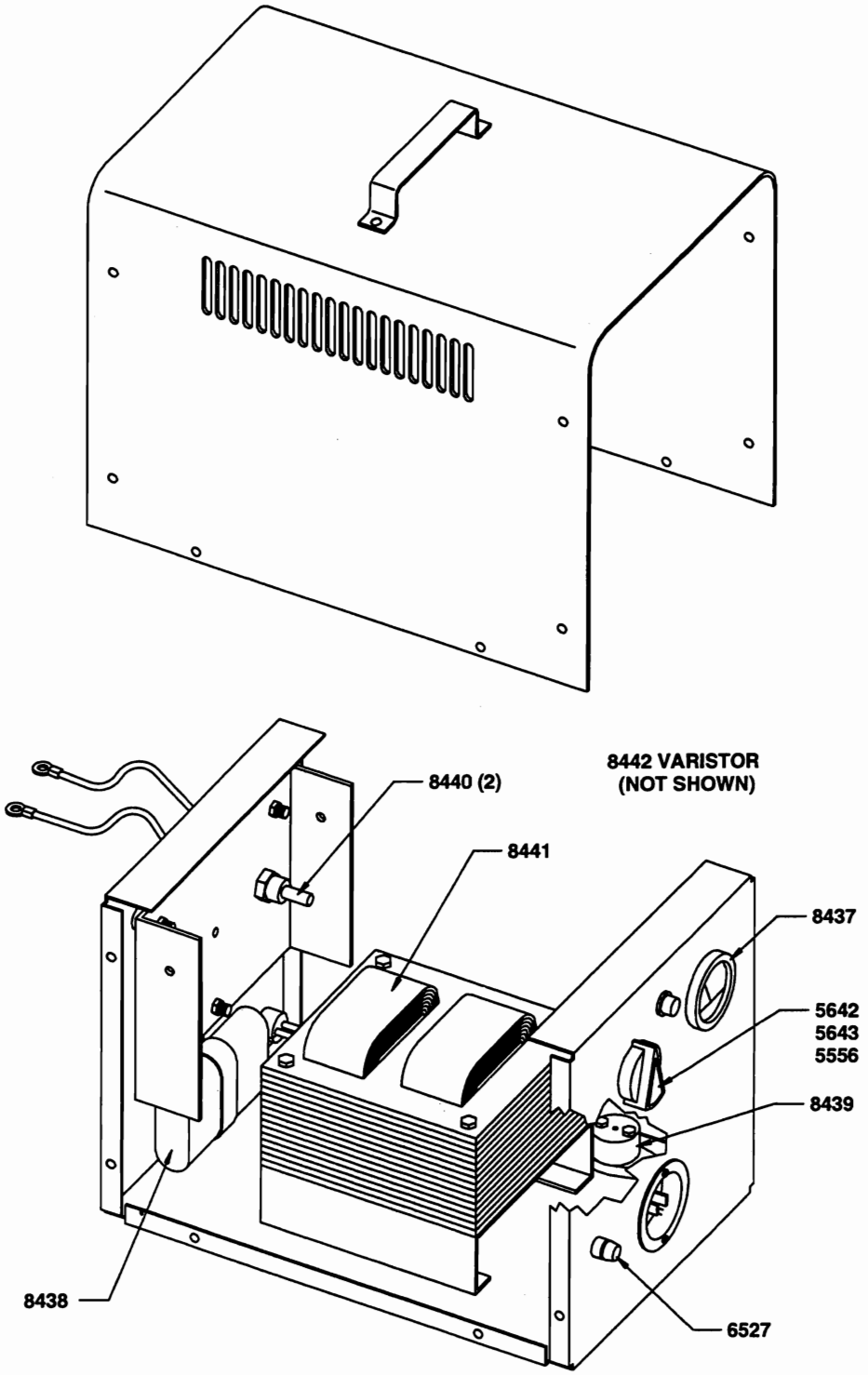


Figure 13-9. Hydraulic Fluid Reservoir

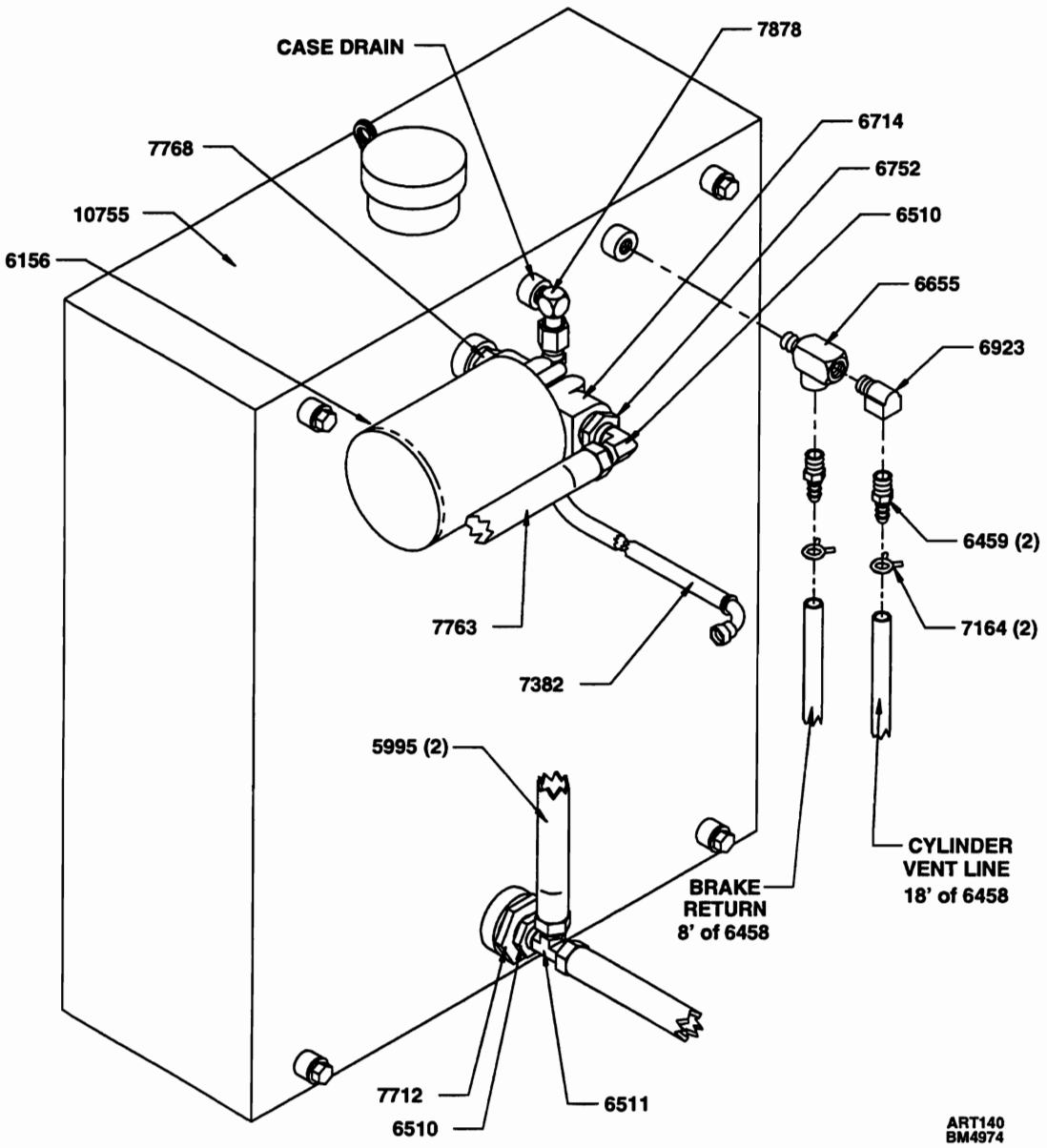
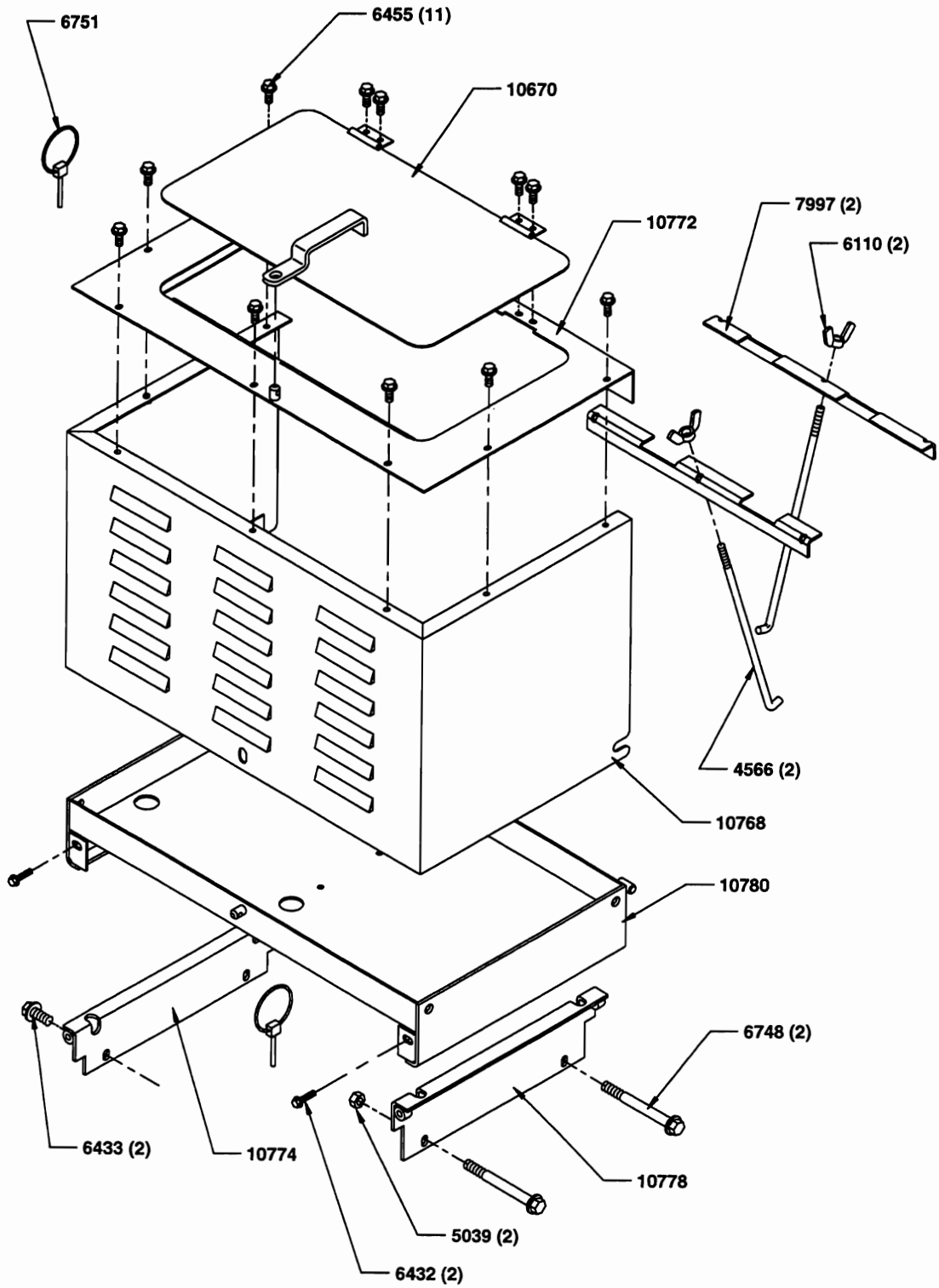


Figure 13-10. Battery Box Assemblies



CHAPTER 14
OUTRIGGERS

Figure 14-1. Outrigger Control Box

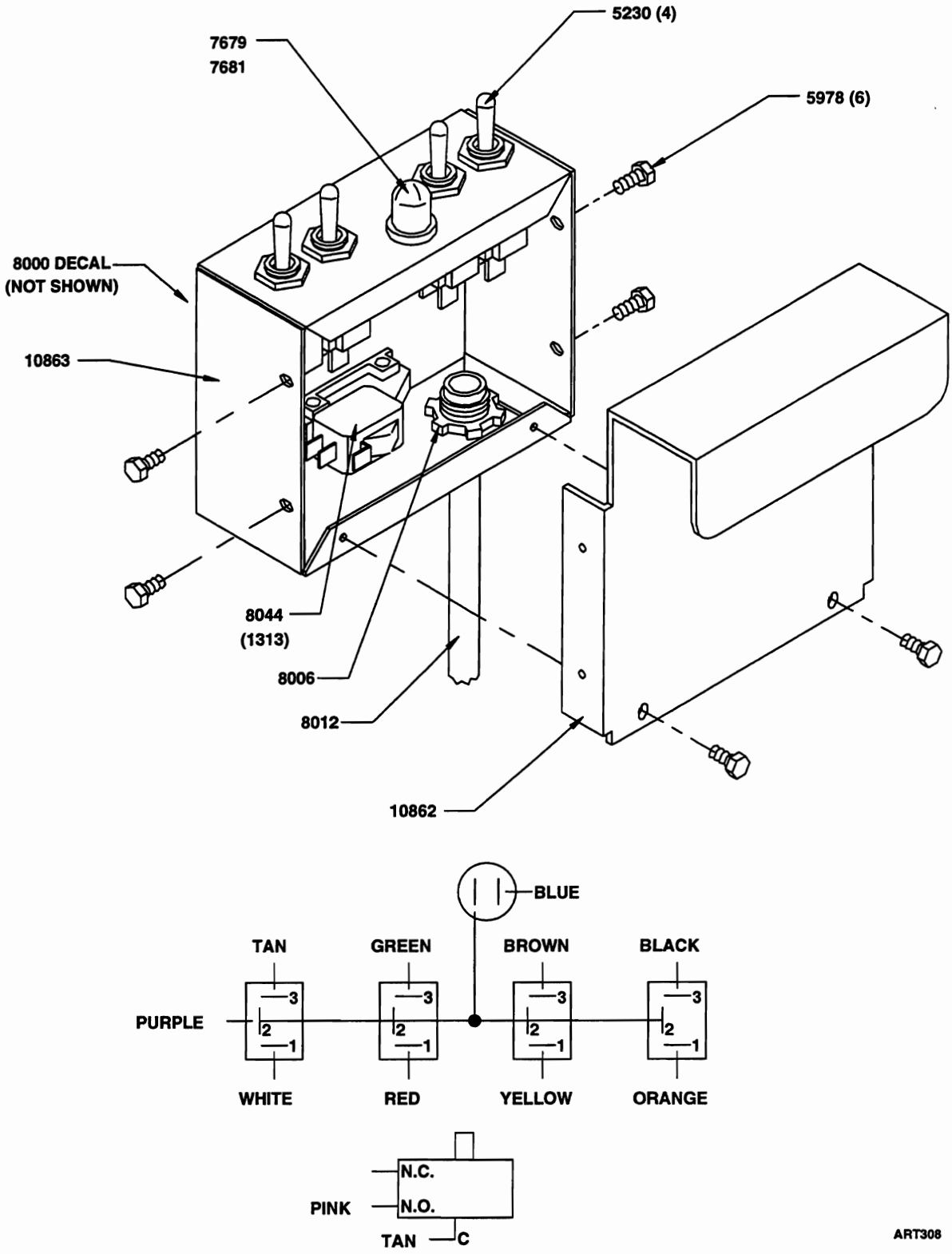


Figure 14-2. Outrigger Junction Box

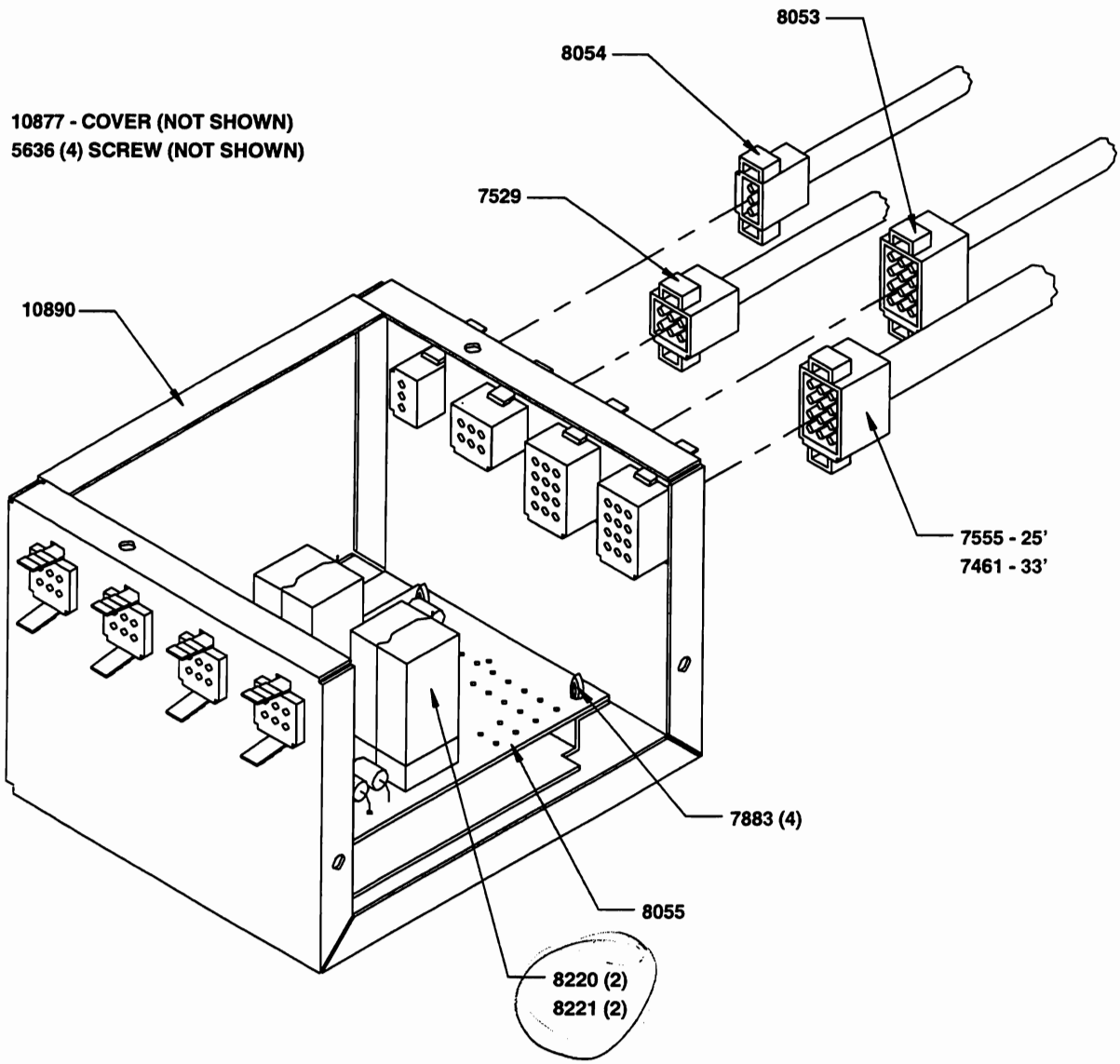


Figure 14-3. Outrigger Posts

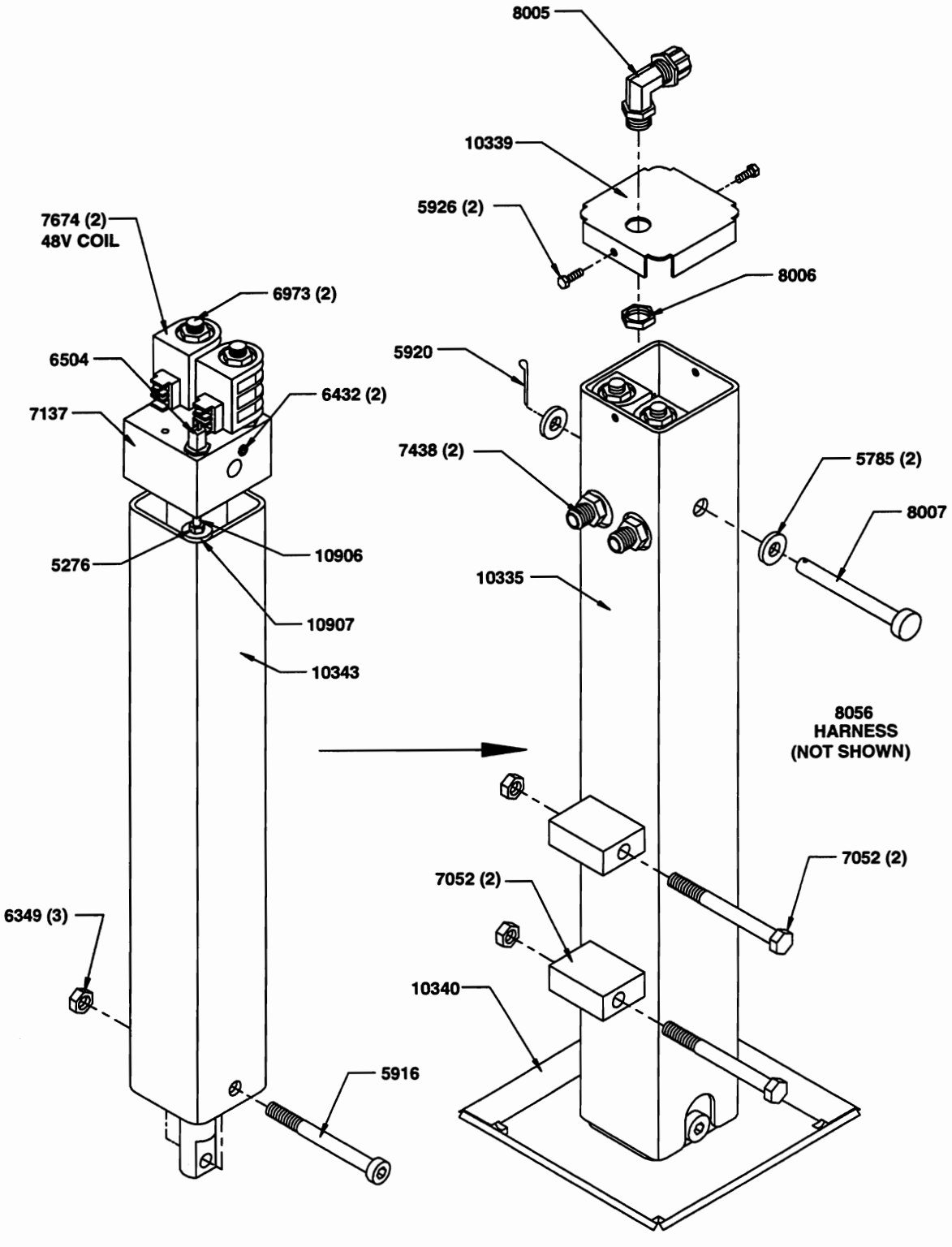
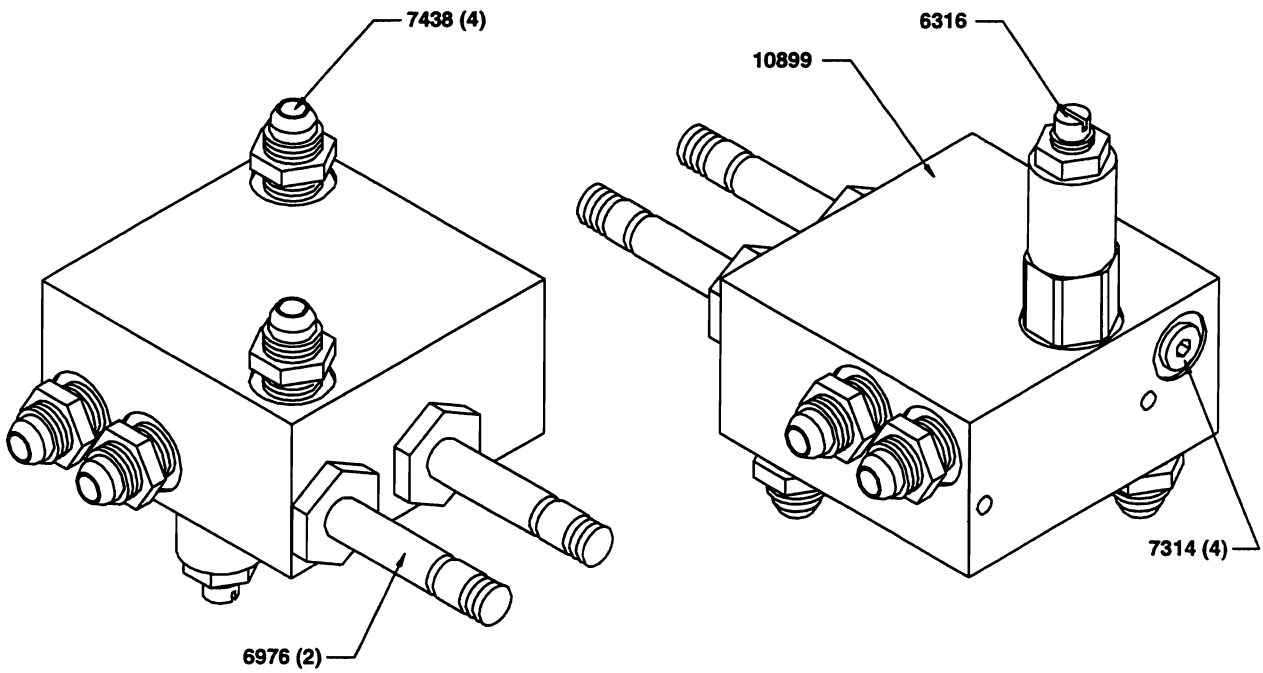


Figure 14-4. Outrigger Manifolds



CHAPTER 15
MISCELLANEOUS

Figure 15-1. Clamps, Fasteners and Trim

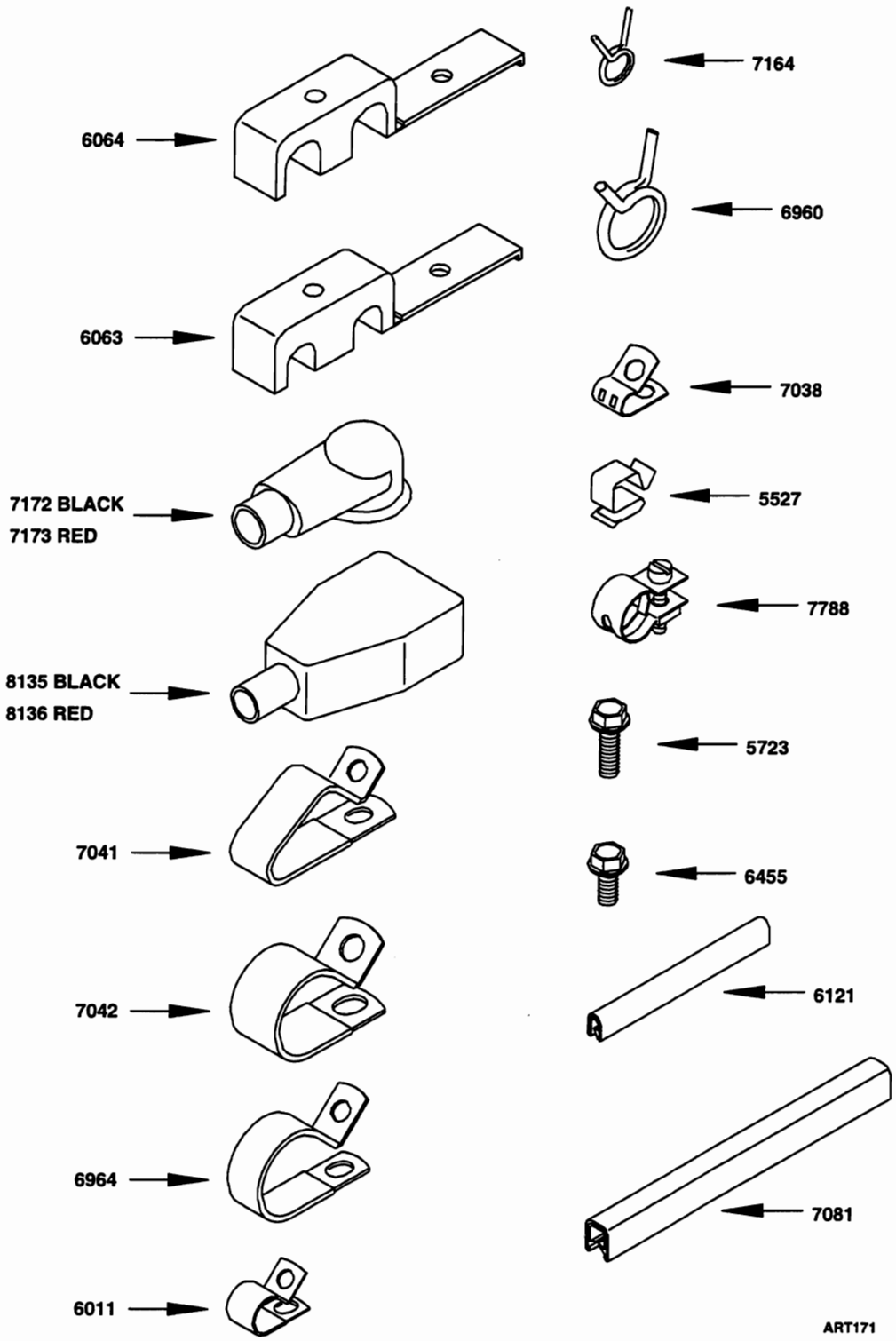


Figure 15-2. Repair Kits and O-rings

REPAIR KITS

Part Number	Part Name	Description of Item
5475	Seal Kit	Fits 2-way cartridge valves, part numbers 5434, 5435, 6316, 6973, 6974, 6975, 7765 and 10915.
5476	Seal Kit	Fits 3-way cartridge valves, part numbers 5954, 6976 and 7445.
6161	Spring & O-ring Kit	Fits 4-way block valves, part number 7976.
6806	Seal Kit	Fits counterbalance valve, part number 6712.
6675	Swivel O-ring Kit	Fits 90 degree swivel hose fitting, part number 7466.
5947	Cylinder Seal Kit	Fits brake and steering cylinder, part numbers 2483 and 10329.
7578	Seal Kit	Fits hydraulic drive motor, part number 7300P.
7574	Cylinder Seal Kit	Fits axle locking cylinder, part number 7147.
4041	Brush & Spring Kit	Fits electric motor, part number 7479.

INDIVIDUAL O-RINGS

Part Number	Size
7563	7/16-20
7564	9/16-18
7565	3/4-16
7566	7/8-14
7882	7/8 x 1-1/8
7901	2-1/4 x 2-1/2

Figure 15-3. Numerical Part Number Index

This figure is a numerically sequenced (lowest to highest) listing of all Quadrex 25SRT/33SRT and 25E/33E part numbers with a part description or nomenclature. This listing is provided for your convenience since the parts catalog illustrations reflect only the part number.

A peculiarity of the part description is the use of a coding scheme for descriptions of "commercial standard" items, such as, nuts, washers, screws, etc. An explanation of the coding scheme, which is an industry standard, is not provided because of its size and complexity. However, should you need clarification of the description coding for an item, please feel free to call us at 1-414-387-4500.

Part No.	Description
1313	SWITCH GUARD
2170	PULL HANDLE
2483	BRAKE CYLINDER ASSY.
2485	CYLINDER WELDMENT - BRAKE
2493	CYLINDER HEAD
2494	PISTON, CYLINDER
2504	CYLINDER ROD - BRAKE
2987	HOLD DOWN ROD
3103	INNER BRAKE ACT - REP BY 8467
3110	ROLLER, BASE
3199	JUMPER CONTACTOR
3219	LOWER BRACKET - MAINT LOCK
3419	GAS TANK
3428	COVER - GENERATOR PANEL
3436	HOLD DOWN BAR - BATTERY
3447	WRAPPER WELDMENT
3450	FRONT & BOTTOM PANEL
3451	COVER - CONTROL BOX
3466	BACK PLATE - RELAY BOARD
3470	GENERATOR
3578	GROUND BRACKET - DIODES
3648	BEARING - BRAKE ROD
3751	CENTERING BRACKET - JOYSTICK
3759	PLATE BOTTOM - CONTROL BOX JS
3763	SPACER STEP - JOYSTICK
3764	SPACER PLATE - JOYSTICK
3765	STRAP PLATE - JOYSTICK
3766	TOP PLATE WELDM'T-JOYSTICK
3768	WASHER, ORING SPACER-JOYSTICK
3769	BRKT. RELAY "C" BOARD-JOYSTICK
3770	SPRING, SPEED LEVEL, JOYSTICK
3771	WASHER RETAINING - JOYSTICK
3772	COVER WELDM'T - JOYSTICK
3773	CONTROL BOX WELDMENT-JOYSTICK
3780	ARM WELDMENT - ASSEMBLY
3781	CAM, SPEED CONTROL - JS
3782	DIRECTIONAL CAM - JS
3788	COVER ASS'Y - MANUAL TUBE
3794	CONTROL GRIP - JOYSTICK
4056	STOP SLEEVE
4171	SWITCH GUARD - END
4268	WRAPPER WELDMENT - EE SERIES
4269	COVER-CONTROL BOX-EE SERIES
4271	FRONT & BOTTOM PANEL-EE SERIES
4566	ROD HOLD DOWN
4678	SPACER WASHER - PLATFORM
4773	WASHER
5005	NUT, HEX KEPS 5/16-18ZN
5033	NUT,HEX KEPS 1/2-13ZN(REP 8457)
5039	NUT,HEX,KEPS 3/8-16 ZN
5202	BTCAPHEXFG0.500 131.00Z5 2AN
5204	BTCAPHEXFG0.312 181.00Z5 2AN
5216	WASHER,FLAT 1/2 ZN
5230	SWITCH,TOGGLE
5232	BUSHING,STRAIN RELIEF 18/3
5275	SWITCH,TOGGLE
5276	NUT,HEX 1/4-20 ZN
5290	PIN,COTTER 5/32 X 1.50
5355	WASHER,FLAT 1.00X.406X.100 ZN
5363	BTMACHEXWR #6 321.00Z5 2AN
5364	NUT,HEX,KEPS #6-32 ZN
5385	BTMACSELFT #8 320.38Z5 Y
5417	BTCAPHEXFG0.375 161.25Z5 2AN
5432	GREASE FITTING
5434	VALVE,CHECK-IN LINE
5435	VALVE,MANUAL PULL
5527	CLIP
5556	TIMER KNOB
5630	SWITCH SLOW SPD-EM STOP ON/OFF
5636	BTMACSTRND #6 320.25Z2 2AN
5642	TIMER
5643	TIMER DIAL PLATE

Figure 15-3. Numerical Part Number Index - Continued

Part No.	Description
5694	SWITCH
5710	PIN,CLEVIS 1/2 X 1 1/4
5723	BTMACSELFT0.250 200.75Z5 Y
5736	RING,RET.,EXT., 1/2 SHAFT
5738	PIN,COTTER 3/16 X 1-1/2
5785	WASHER,FLAT 5/8 ZN
5866	BEARING
5875	WASHER,LOCK,INT.TH 1/2
5901	WASHER, CAM THRUST
5912	BEARING CAM, 16DU24
5916	BTCAPSOCKT0.500 134.00B8 2AN
5918	RET. RNG-EXT-HD-100-SP-P
5920	PIN COTTER 1/8 X 1.00 ZN
5936	SWITCH-KEY
5947	SEAL KIT FOR 5677 & 5678
5954	VALVE, PRIORITY FLOW CONTROL
5978	BTMACSELFT #6 320.25Z5 Y
5979	SWITCH
5991	TERMINAL BLOCK-REQ (1) 7817
5995	HYDRAULIC HOSE
6011	CABLE CLAMP
6029	SCREW, THRD. ROLL. 1/4-20X1.50
6063	CLAMP
6064	CLAMP
6070	DIODE ASSY
6110	NUT, WING, 1/4-20, ZN PLT
6121	TRIM - .250
6156	OIL FILTER CARTRIDGE
6208	BATTERY JUMPER
6211	BTCAPHEX 0.500 131.25Z5 2AN
6241	DIODE ASSY
6247	BTSFPSOCKT0.500 131.50B8 2AN
6248	NUT, HEX JAM 1/2-13 BO
6281	NUT,HEX, 2 WAY LOCK 3/8-16 ZN
6314	COUPLER (J.S BARNES PUMP)
6316	ADJ RELIEF VALVE
6337	INTERNAL RETAINING RING
6338	NUT, HEX TOP LOCK 1/2-20
6342	TUBING END PLUG
6343	FITTING EXT, 1/4 X 1/4 H.P
6349	LOCKNUT - 2 WAY 1/2-13 ZINC
6431	WASHER, FLAT 1/4" ZINC
6432	BTCAPHEXFG0.375 160.75Z5 2AN
6433	BTCAPHEXFG0.375 161.00Z5 2AN
6434	BTCAPHEX 0.375 162.00Z5 2AN
6435	BTCAPHEX 0.500 132.50Z5 2AN
6455	BTCAPSELFT0.250 200.50Z5 Y
6456	CORD GRIP - STEEL
6458	RETURN LINE HOSE
6459	NPTF BAYONET FITTING,5/16X1/4
6463	LOCK NUT (NYLON) ZINC 1/2-13
6504	SWITCH, OUTRIGGER
6510	FITTING, ELBOW 1/2X1/2 NPT L.P
6511	TEE 1/2X1/2X1/2 NPT L.P.
6557	DECAL - EMERGENCY DOWN
6633	FLEX LOCK NUT
6655	1/4" STREET TEE-STEEL
6669	BEARING-32DU32
6676	WHEEL LUG BOLT 1/2-20 THREAD
6687	CONNECTOR/CABLE ASSY - HANDY
6688	KLIPRING 2" SHAFT
6701	RETAINING RING - 2" SHAFT
6712	COUNTER BALANCE VALVE
6714	FILTER HEAD,HM REQ (2) 6752
6715	LIMIT SWITCH
6724	H.P. SAE ADAPTER 90 DEG ELBOW
6727	90DEG BRASS ELBOW-5/16"BAYONET
6748	BTCAPHEX 0.375 163.50Z5 2AN
6749	SPRING - EXTENSION 4" LONG
6751	LYNCH PIN - 1/4"
6752	REDUCER - FITTING 3/4X1/2 NPTF
6823	CAPLUG 1 1/4" SQ. TUBING
6839	DECAL - AWP LOGO
6853	ENGINE-GAS/LPG-HM-SHIP(1)6306
6854	HOUR METER
6857	HOUR METER
6859	PROPANE TANK
6860	MOUNTING BRKTS - LPG TANK
6861	BULKHEAD FILTER
6863	ELBOW - MALE 1/8" BRASS
6864	ADAPTER, PUMP 3/4 X 5/8 STEEL
6865	ELBOW 3/4 NPT BRASS
6868	QUICK DISCONNECT
6870	COIL 12 V 1 SPADE ASY W/DIODE
6877	PULLEY 4" 1 1/8" BORE
6878	PULLEY 4 1/2" 1" BORE
6880	IDLER PULLEY
6881	CONTROL CORD OUTLET

Figure 15-3. Numerical Part Number Index - Continued

Part No.	Description
6882	CONTROL CORD
6883	REGULATOR - LP
6884	VAPORIZOR - REGULATOR - LPG
6885	ENGINE ADAPTER KIT - LP GAS
6886	GASOLINE SHUTOFF VALVE
6887	OIL PRESSURE SWITCH
6888	FRONT PULLEY ENGINE MOUNT
6889	POWER RELAY 12 VOLT DC 25 AMP
6890	HOSE ASSEMBLY
6894	MALE ELBOW FITTING
6895	MALE 45 DEG ELBOW FITTING
6896	STRAIGHT FITTING
6905	TOGGLE SWITCH
6906	INDICATOR LIGHT
6910	KEY 1/4" x 1/4" X 1 1/4"
6913	DECAL-ENGINE CONTROL
6919	SHUT OFF VALVE - GAS LINE
6922	ALARM BUZZER 12 VOLT
6923	STREET ELBOW BRASS
6924	HEX NIPPLE BRASS 1/4
6926	BAYONET FIT
6927	BAYONET FITTING 1/2 X 3/8
6929	ELBOW 45 DEG MALE 1/4 BRASS
6938	RELIEF VALVE L.P GAS
6939	HOSE-AIR INTAKE
6940	OIL FILTER CARTRIDGE
6941	MUFFLER (KOHLER ENGINE)
6942	AIR FILTER (KOHLER ENGINE)
6946	DUAL DIODE ASSY
6947	TERMINAL STRIP - REQ (1) 7970
6960	HOSE CLAMP 3/4" HYD. HOSE
6964	CABLE CLAMP 1"
6972	HOSE - L.P. GAS
6973	VALVE N.C. POPPET 2 WAY
6974	VALVE NO POPPET 2/W-REQ 1-6983
6975	VALVE N.O. SPOOL 2 WAY
6976	VALVE 3 WAY 2 POSITION
6979	SOLENOID, START
6982	SOLENOID, IDLE
6986	NUT - DRIVE MOTOR - ZINC
7032	NUT RETAINER 5/16-18
7038	CLAMP, EMERGENCY DOWN TUBE
7041	CABLE CLAMP, DBL TUBE W/VINYL
7042	CABLE CLAMP, STEEL W/VINYL 1"

Part No.	Description
7051	HOSE ASSEMBLY
7052	BTCAPHEX 0.500 133.50Z5 2AN
7081	TRIM LOCK SEAL
7115	PLUG, PRY OUT HOLE
7137	CYL. ASSY. HVD. OUTRIGGER
7139	TAB ADAPTER MALE
7147	CYLINDER - AXLE LOCKING
7153	PLATFORM GATE SPRING
7156	FRONT DECAL
7164	HOSE CLAMP 5/16 I.D. HOSE
7172	TERMINAL INSULATOR BOOT(BLACK)
7173	TERMINAL INSULATOR BOOT (RED)
7196	BEARING 22DU28 1-3/8ID X 1-3/4
7231	BTMACSTHEX #6 321.25Z5 2AN
7235	CIRCUIT BREAKER-15 AMP MANUAL
7269	HARNESS - SLOW SPEED LIMIT-DYN
7273	RELAY BOARD, SOLID STATE
7292	BEARING, SLEEVE BRONZE
7293	ROD END BALL JOINT
7297	QUICK DISCONNECT - MALE
7300	HYD WHEEL MOTOR 45 3/IN
7300P	HYD.WHEEL MOTOR-PAINTED
7305	NIPPLE,HEX REDUCING 1/4 X 3/8
7312	BTCAPHEX 0.500 134.50Z5 2AN
7314	PLG,O-RING SOCKET HX STL ZINK
7326	BTCAPHEX 0.625 114.00Y5 2AN
7355	SPRING, BRAKE
7355P	BRAKE SPRING (PAINTED)
7362	36 HYD. TUBE ASSY.
7364	#39 HYD. TUBE ASSY.
7365	#40 HYD. TUBE ASSY.
7370	SPRING, BRAKE ADJUSTER
7371	PINS, HOLD DOWN
7372	CUP, HOLD DOWN (OUTER)
7373	CUP, HOLD DOWN (INNER)
7374	SPRING, HOLD DOWN
7377	ADJUSTING SCREW (BRAKE)
7381	HOSE, AXLE CYLINDER
7382	HOSE, WHEEL MOTOR DRAIN
7383	HOSE, STEERING CYLINDER
7384	HOSE, DRIVE & PUMP
7385	FITTING 90 DEGREE
7386	FITTING, ADAPTER SAE O RING
7387	FITTING OR 7/8-14 X 3/4-16 STL

Figure 15-3. Numerical Part Number Index - Continued

Part No.	Description
7388	FITTING 45 DEG. ELBOW
7389	FITTING OR, 3/4-16XJIC 9/16-18
7393	ROLLER,EXT. PLATFORM 1 1/2 X 4
7396	CLEVIS PIN 1/2 X 3 LG.
7399	BTCAPSCKFT0.312 180.50Z8 2AN
7400	BTCAPHEX 0.375 164.00Z5 2AY
7406	HOSE ASSEMBLE - L.P.GAS
7408	SPRING, DECK LOCK
7414	KNOB POTENTIOMETER
7433	FLOOR BOARD, PLATFORM
7435	ALARM, TIP OVER
7438	FITTING, 9/16X18OR-9/16-18 JIC
7440	BEARING 32DU24
7441	BTCAPSOCKT0.500 135.00B8 2AN
7442	BTSFPSOCKT0.375 161.00B8 2AN
7445	VALVE, PILOT OPER. BALL CHECK
7461	WIRE HARNESS-SCISSORS
7466	HOSE ASSEMBLY, LIFT
7468	BTCAPHEX 0.438 141.00Z5 2AN
7478	BRAKE HOSE ASSEMBLY
7479	MOTOR - 48 VOLT D. C.
7488	LIMIT SWITCH
7489	FITTING, ADAPTER 1/2 X 3/8
7491	VALUE, MANUAL RELEASE
7492	TERMINAL BLOCK
7495	JUNCTION BOX
7508	FITTING,BRASS 5/16 X 1/8
7509	FITTING, BRASS 1/8 HEX NIPPLE
7510	SPRING, WIRE PROTECTOR
7518	CABLE ASSEMBLY-BRAKE RELEASE
7519	DOWN, WIRE HARNESS
7521	TUBING ASS'Y - RETURN LINE
7526	110 AC KIT - QUAD. 33 FT.
7528	WIRE HARNESS-WARNING HORN
7529	OPERATING MANUAL - QUADREX
7552	LVL. SEN.4-1/2 DEG.-1 SEC.DEL.
7553	ALARM, TIP OVER
7555	WIRE HARNESS 25 FT
7556	VOLTAGE REGULATOR ASS'Y
7558	COUPLER LOVEJOY GENERATOR
7561	BTMACSTTRS #6 320.75Z5 2AN
7576	REPAIR KIT, LIFT CYL.
7579	PLUG, PLASTIC (TOGGLE HOLE)
7593	PIN, SAFETY SNAP

Part No.	Description
7601	FITTING, ELBOW
7620	DECAL,UPPER CONT.BOX-EE SERIES
7621	DECAL-CONT.BOX SIDE-EE SERIES
7622	SWITCH GUARD-EMERGENCY STOP
7633	SWITCH, TOGGLE (EE SERIES)
7656	WIRE HARNESS-UPPER CONTROL DM
7657	HARNESS-CONTROL BOX - DM
7658	WIRE SET-CONTROL BOX-HT-DM
7671	DECAL - BASE CONTROL HM
7674	COIL, 48 DOUBLE SPADE EQ
7676	DECAL - CONTROL BOX TOP - DF
7677	DECAL - CONTROL BOX SIDE DF
7679	LIGHT, INDICATOR YELLOW
7681	LAMP, DIALIGHT
7684	BTMACHEX #6 321.50Z2 2AN
7688	CONTACTOR 48 VOLT DC
7689	CHARGER 48V DC 110V AC - 60HZ
7695	FUEL GAGE, BATTERY 48V D.C.
7697	LATCH, DOOR T-HANDLE
7712	FILTER, SUCTION 1-1/4 NPT
7714	BEARING,TAPERED ROLL. 1.5" ID
7715	BEARING,TAPERED ROLL.1.25"ID
7716	RACE, BEARING TAPERED
7717	RACE, BEARING TAPERED
7719	CAP, GREASE
7722	TUBING - 2WD - #1
7723	TUBING - 2WD - #2
7724	TUBING - 2 WD - #3
7725	TUBING - 2 WD - #4
7726	TUBING - 2WD - #5
7727	TUBING - 2WD - #6
7728	TUBING - 2WD - #7
7729	TUBING - 2WD - #8
7730	TUBING - 2WD - #9
7731	TUBING - 2ND - #10
7732	TUBING - 2WD - #11
7733	TUBING - 2WD #12
7742	HARNESS BATTERY 2WD - ELECTRIC
7749	HOSE ASSY. PUMP TO MANIFOLD
7751	WIRE HARNESS - MANIFOLD-ELECT
7753	HARNESS CABINET CROSSOVER
7754	HARNESS LOW CONT PANEL-ELEC
7755	HARNESS 2WD-33' GAS ELECTRIC
7756	HARNESS 2WD 33' GAS-ELECTRIC

Figure 15-3. Numerical Part Number Index - Continued

Part No.	Description
7757	HARNESS 2WD 33' GAS-ELECTRIC
7758	HARNESS 2WD 33' (GAS)
7759	HARNESS 2WD 25' ELEC-GAS
7760	HARNESS 2WD 25' ELEC-GAS
7761	HARNESS 2WD 25' ELEC-GAS
7763	HOSE HYD. LOW PRESS
7764	FIT,BRASS MALE (S.22) 1/2X3.8
7765	PLUG, CAVITY 2 WAY
7768	FITTNG NIPPLE 3/4" NPT X 2"
7771	FITTING 1/2X1/2 STEEL ELBOW
7772	TUBING - 2WD - #14
7773	TUBING - 2WD - # 15
7778	BTCAPFLTPH0.250 201.25Z2 2AN
7779	ELBOW, JIC TO O-RING 1/2 X 3/8
7780	FITTING, JIC TO O RING TEE 3/8
7784	FUSE - 225 AMP
7785	FUSE HOLDER
7786	FLOW CONTROL
7788	CLAMP, HOSE
7806	LIGHT, INDICATOR
7815	TORSION SPRING (JOY STICK)
7817	STRIP-BACKING-15 PST
7818	BEARING, BRONZE FLANGED
7819	BEARING, BRONZE FLANGED
7820	SPRING - TORSION - BRAKE LOCK
7826	WIRE HARNESS
7827	DECAL - WARNING LIGHT-QUADREX
7828	DECAL - DIRECTIONS - JOYSTICK
7829	HARNESS - 16' - DYNA-6,12-15
7831	CIRCUIT BOARD - JS -
7834	SWITCH LIMIT MICRO
7835	RELAY, 24 VOLT
7865	TERMINAL, COUPLER 1/4" SPADE
7875	GASKET - JOYSTICK
7878	FITTING S116J F.TOM 90 DEG
7881	WASHER-SPRING
7882	O-RING 7/8 ID X 1.125 OD
7883	SUPPORT, CIRCUIT BOARD - JS
7884	BTMACSTRND #4 401.00Z5 2AN
7885	BTMACSTRND #4 400.25Z5 2AN
7887	BTCAPSOCKT #6 320.50Z8 2AN
7888	BTCAPPHTRS #10 320.50Z2 2AN
7895	DECAL,LIFT DIRECTIONS,JOYSTICK
7900	HUB ASSY.

Part No.	Description
7901	O-RING
7903	DECAL,SWITCH SERV QUAD-SRT
7906	HARNESS-CIRC. BRD.-KHLR DF-SRT
7907	WIRE HARNESS, CROSSOVER-SRT-DF
7908	WIRE HARNESS-BASE CONTROLS-SRT
7909	HOUR METER 24-48 VOLT DC
7911	HARNESS-MANIFOLD-KOHLER DF-SRT
7915	WIRE HARNESS,WARNING ALARM-SRT
7916	WIRE HARNESS,LIM.SWT.& LEV.SRT
7918	PIN - COILED SPRING
7919	HARNESS WIRE 25' SRT
7920	HARNESS WIRE - 33' SRT
7921	WIRE HARNESS JS-COVER
7922	WIRE HARN.#1-UPP.CONT.BOX-SRT
7926	WIRE HARNESS JS-HT
7929	FITTING,1/2X1/2 JIC-JIC 90 DEG
7931	BEARING, TAPERED R 1" BORE
7932	BEARING,TAPERED R 1 1/16" BORE
7933	RACE, BEARING TAPERED
7934	HOSE ASSEMBLY STEERING
7938	BTCAPHEX 0.625 113.00Z5 2AN
7945	HOSE, .75" ID LOW PRESS - 51.5
7946	CAP, BATTERY SINGLE CELL
7961	NUT, LUG 1/2 - 20 90 DEGREE
7970	STRIP MARKER 1-22
7976	VALVE, DOI 4 WAY 3 POS TANDEM
7978	PUMP, HYD. GEAR
7984	HOSE ASS'Y. PUMP TO MANIFOLD
7997	HOLD DOWN - BATTERY
8000	DECAL CONTROL BOX-OUTRIGGER
8005	CONNECTOR, CORD 90 DEG
8006	NUT,CONNECTOR 1/2" CONDUIT
8007	PIN, CLEVIS 5/8 X 4 1/2 ZINC
8012	WIRE HARNESS OUTR CONTROL BOX
8022	DECAL
8044	SWITCH-MOTION OUTRIGGER
8053	WIRE HARNESS ELEC. OUTRIGGER
8054	WIRE HARNESS AUX TO MANIFOLD
8055	CIRCUIT BOARD
8056	WIRE HARNESS AUX TO OUTRIGGER
8068	ROCKER-SWITCH LEVER
8069	SWITCH-SNAP
8070	BOOT-ROCKER
8071	BTMACSTPAN M30.5030.0Z 4g6gN

Figure 15-3. Numerical Part Number Index - Continued

Part No.	Description
8073	BTMACSTPAN M30.5010.0Z 4g6gN
8075	SWITCH, SELECTOR 3 POS.
8076	BASE-MOUNTING W/2 CONTACT BLKS
8082	BLOCK - CONTACT N.O.
8135	BOOT, TERMIANL INS BLACK
8136	BOOT, TERMINAL INS. RED
8199	MAINT LOCK WELDMT (WAS 10377)
8220	RELAY, 48 VOLT
8221	CLIP, SPRING
8236	KING PIN FRONT AXLE (WAS 10819)
8305	BTCAPHEX 0.312 181.75Y8 2AN
8348	ROLLER SHAFT EXT.TUBE-REP 3608
8437	AMMETER 48 VOLT CHARGER
8438	CAPACITOR 48 VOLT CHARGER
8439	CIRCUIT BREAKER 48 VOLT CHARGER
8440	DIODE 48 VOLT CHARGER
8441	POWER TRANSFORMER 48VOLT CHRGR
8442	VARISTOR 48 VOLT CHARGER
10012	BASE WELDMENT - ATV
10013	CYLINDER PIN - REP 8335
10015	CYL. PIN LOCK PLATE
10018	MTG. PIVOT PIN - REP 8338
10019	BEAM WELD - OUTER - 1/4 X 3X8
10020	BEAM - WELD - OUTER - .187X3X8
10021	BEAM WELD - OUTER - .187 X 3X6
10025	INNER BEAM WELD-CYL.MTG LOWER
10026	INNER BEAM WELD CYL.MTG-UPPER
10027	INNER BEAM WELD-CENTER
10028	INNER BEAM WELD-UPPER
10041	CYLINDER ROD
10043	STEP WELDMENT - REAR
10048	CYLINDER WELDMENT - STEERING
10090	INSERT - BRAKES
10093	BRAKE PAD WELDMENT
10096	BRAKE CAM
10097	BRAKE PLATE WELDMENT
10128	PLATFORM WELDMENT - ATV
10148	HINGE LOCK WELDMENT
10156	PIN ROLLER-PLATFORM (REP 8340)
10157	PIN ROLLER-PLATFORM (REP 8340)
10207	EXT PLATFORM ROLLER WELDM'T LH
10214	EXT PLATFORM ROLLER WELDM'T RH
10231	GATE WELDMENT - REAR
10255	EXT.PLTFM RAIL FRONT WELDM'T
10264	ROLLER AXLE WELDMENT
10267	ROLLER AXLE WELDMENT
10270	AXLE - REAR WELDMENT
10278	MANIFOLD - AXLE CONTROL
10283	REAR AXLE BASE WELDMENT
10324	MOUNTING BLOCK SCISSORS
10329	ATV STEERING CYLINDER ASSEMBLY
10335	TUBE INNER OUTRIGGER - ATV
10339	OUTRIGGER COVER
10340	OUTRIGGER - FOOT WELDMENT
10343	TUBE WELDMENT - OUTRIGGER
10350	LOCK CHANNEL
10354	CYLINDER PIN - LOWER
10355	CYLINDER PIN - UPPER
10417	MTG. BRKT. WELD. - RH PLATFORM
10423	PIVOT PIN WELDMENT
10424	AXLE GUIDE - NYLON - ATV
10425	MTG. BRKT. WELD. - LH PLATFORM
10426	BRAKE CHANNEL - WELDMENT
10428	BRK'T BRAKE CYL. WELD -QUAD
10445	BRAKE BUSHING
10450	BRAKE ROD WELDMENT
10451	RAILING HINGE WELDMENT-R.H.
10454	PIN ADJUSTING PLATFORM
10469	TUBING SUPPORT
10476	LOCK LEVER
10479	COVER-CABLE TRAY - LH FRONT
10480	COVER-CABLE TRAY - RH FRONT
10481	COVER-CABLE TRAY (REAR)
10485	ADJUSTING PIN SHAFT
10493	RAILING HINGE WELDMENT-L.H.
10504	BEAM, LIMIT BLOCK
10505	TOP RAILING SUPPORT
10506	RAILING SUPPORT SIDE
10507	BRACKET - LIMIT SWITCH
10511	UPPER LIMIT - SWITCH PLATE
10512	RAIL WELDM'T REAR-DROP DOWN
10513	WELDMENT FRONT DROP DOWN
10514	DROP DOWN RAIL MOUNT
10520	EMERGENCY DOWN ASS'Y QUAD.
10525	PLATFORM ROLLER STOP PLATE
10526	ORFICE-BRAKE 1/8 NPTF
10530	ROLLER CHANNEL WELDMENT
10537	EXT. PLATFORM RAILING LH

Figure 15-3. Numerical Part Number Index - Continued

Part No.	Description
10538	EXT. PLATFORM RAILING RH
10549	CONTROL CORD GUARD-SHORT
10550	CONTROL CORD GUARD-LONG
10552	RAILING CAP WELDMENT L.H.
10553	RAILING CAP WELDMENT R.H.
10561	LATCH PIN, REAR GATE
10574	COVER, CONNECTOR
10577	**MANIFOLD ASY - AXLE CONTROL
10587	**LOCK ASS'Y LH - ROLLOUT-Q
10588	**LOCK ASY-RH - ROLLOUT-Q
10595	STEP REAR WELDMENT - SHORT
10599	BRK'T. R.H. MTG. (ELEC)
10600	BRK'T. L.H. MTG. (ELEC)
10632	TRAY CABLE - ELECTRIC
10633	BRACKET MTG.(CABLE TRAY)-ELECT
10641	DOOR WELDMENT CABINET - ELECT
10654	BRACKET - TUBE SUPPORT
10670	COVER WELDMENT - BATTERY TRAY
10671	MTG. BLOCK - UPPER TERM.
10692	BRACKET-BATTERY HARNESS-ELECT
10707	LIMIT SWITCH ASS'Y - Q.ELEC
10708	METERING PLUG-ELECTRIC
10719	RAIL WELD, FRONT, STD.
10720	KICK PANEL WELDMENT
10722	**BOX CTRL-UPPER HT-QUADELEC
10726	PLATE MTG. TILT ALARM
10727	HANDLE - PUSH /PULL WELDMENT
10731	CLIP, HANDLE
10732	LOWER LIMIT SWITCH ASS'Y
10739	TRAY WELDMENT R.H
10740	TRAY WELDMENT L.H
10744	TUBE SUPPORT TRAY-EUR
10745	CABINET ELECT-EUR
10748	COVER WELDMENT-EUR
10750	INSTRUMENT TRAY WELDMENT-EURO
10755	RESERVOIR WELDMENT-EURO
10757	WELDMENT - CAB. SIDE-QE-EUROPE
10759	COVER WELDMENT-EURO
10761	BACK & SIDE WELDMENT
10764	DOOR WELDMENT-EURO
10768	BATTERY TRAY WRAPPER - EUROPE
10772	TOP BATTERY TRAY WELDM'T-EURO
10774	SUPPORT WELDM'T L.H.-EUROPE
10775	**SUB-ASS'Y TIP ALARM
10778	SUPPORT WELDM'T R.H.-EUROPE
10780	BATTERY TRAY WELDMENT
10788	MOTOR PLATE QUAD-SRT
10791	IDLER BELT GUARD WELDMENT-SRT
10792	IDLER ARM-SRT
10795	TOP COVER WELDMENT-SRT
10797	BULKHEAD, REAR/BACK WELD.-SRT
10798	FRONT BULKHEAD WELDMENT-SRT
10804	MTG PLATE WELD FUEL TR-SRT
10806	BRAKE ROD WELDMENT
10808	REAR AXLE WELDMENT
10809	STEERING ARM - ELE - SRT
10818	WASHER BEARING SUPPORT
10821	GENERATOR PKG. - SRT
10822	PLATE-BUZZER-SRT
10823	STRAP-BUZZER-SRT
10824	BRACKET ENGINE SWITCH-SRT
10829	HEAT SHIELD-SRT
10832	BELT GUIDE - GEN - SRT
10836	FRONT AXLE WELDM'T-ELECT-SRT
10837	KING PIN HOUSING WELDMENT RH
10838	KING PIN HOUSING WELDMENT LH
10839	MTG. BRKT SHROUD - LEFT - SRT
10840	WELDMENT-ENG. SHROUD R.H.-SRT
10841	GUARD-WELD EXHAUST-SRT QUAD
10842	COVER WELD-FRONT-SRT QUAD
10843	COVER-ACCESS-GEN-SRT QUAD
10844	SHROUD,ENGINE LEFT-SRT QUAD
10845	COVER WELD-ACCESS (NO GEN) SRT
10846	PLATE JUNCTION - SRT
10847	HUB ASS'Y - REAR - QE
10849	**CONT. BOX ASS'Y - UPPER-SRT
10852	FITTING, BLEEDER
10853	BLEEDER
10856	BRAKE DRUM 11 3/8 O.D.
10862	BOX CONTROL REAR-OUTRIGGER
10863	BOX CONTROL-OUTRIGGER-FRT
10864	HOLD DOWN BRACKET (CHARGER)
10877	COVER CONTROL BOX-OR
10889	BASE WELDMENT - TKD
10890	CONTROL BOX WELDMENT-ORIGINAL
10906	BOLT - OUTRIGGER ACTUATOR
10907	WASHER, ACTUATOR OUTRIGGER
10912	**CONTROL BOX ASSEMBLY

Figure 15-3. Numerical Part Number Index - Continued

Part No.	Description
10915	PLUG
10925	CYL-LIFT-QUAD-W/BEARING
11177	ROLLER WASHER
100623B	CAM ROLLER
1008289	BTMACSELFT #10 320.31Y2 2AY

Limited Owner Warranty

Mayville Engineering Company, Inc, (MEC) warrants its equipment to the original purchaser against defects in material and/or workmanship under normal use and service for one (1) year from date of registered sale or date the unit left the factory if not registered.

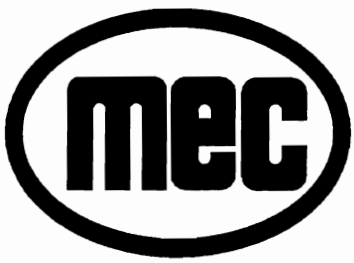
MEC further warrants the structural weldments of the main frame and elevating system as defined in MEC's current Warranty Policy & Procedures, to be free from defects in material or workmanship for five (5) years from date of registered sale or date unit left the factory if not registered.

Warranty claims within such warranty period shall be limited to repair or replacement, at MEC's option, of the defective part in question and labor to perform the necessary repair or replacement based on MEC's then current flat rate, provided the defective part in question is shipped prepaid to MEC and is found upon inspection by MEC to be defective in material and/or workmanship.

Mayville Engineering Company, Inc. shall not be liable for any consequential, incidental or contingent damages whatsoever. Use of other than factory authorized parts; misuse, improper maintenance, or modification of the equipment voids this warranty.

The foregoing warranty is exclusive and in lieu of all other warranties, express or implied. All such other warranties, including implied warranties of merchantability and of fitness for a particular purpose, are hereby excluded.

No Dealer, Sales Representative, or other person purporting to act on behalf of MEC is authorized to alter the terms of this warranty, or in any manner assume on behalf of MEC any liability or obligation which exceeds MEC's obligations under this warranty.



Aerial Work Platforms

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