



OPERATING and MAINTENANCE, MANUAL

COMPRESSOR MODEL 9/235 HA IR

Code C:



This manual contains important safety information.

Do not destroy this manual.

This manual must be available to the personnel who operate and maintain this machine.



Portable Power

P.O. Box 868 - 501 Sanford Ave

Mocksville, N.C. 27028

www.portablepower.irco.com

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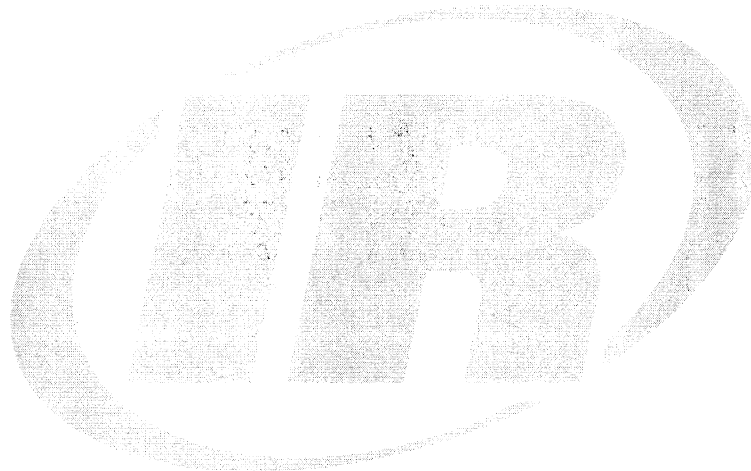
TABLE OF CONTENTS

TITLE	PAGE
FOREWORD	
SECTION 1 - SAFETY	
SAFETY PRECAUTIONS	
General Information	
Hazardous Substance Precaution.....	
SAFETY LABELS	
SECTION 2 - WARRANTY	
WARRANTY	
Warranty Information.....	
GENERAL WARRANTY INFORMATION	
WARRANTY REGISTRATION	
Complete Machine Registration	
SECTION - 3 GENERAL DATA	
GENERAL DATA	
SPECIFICATIONS	
SECTION 4 - OPERATING INSTRUCTIONS	
OPERATING INSTRUCTIONS	
COMMISSIONING	
COMPRESSOR MOUNTING	
PRIOR TO STARTING	
STARTING	
STOPPING	
EMERGENCY STOPPING	
RE-STARTING	
MONITORING DURING OPERATION	
DECOMMISSIONING	

TABLE OF CONTENTS

TITLE	PAGE
SECTION 5 - MAINTENANCE	
GENERAL	
SCHEDULED MAINTENANCE	
COMPRESSOR OIL LEVEL	
COMPRESSOR OIL	
AIR CLEANER	
GAUGES	
FUEL TANK	
BATTERY	
COMPRESSOR OIL, HYDRAULIC OIL and FUEL COOLERS	
RADIATOR	
HOSES	
COMPRESSOR OIL FILTERS	
FASTENERS	
COMPRESSOR and HYDRAULIC OIL	
ENGINE COOLING FAN DRIVE	
AIR COOLING FAN DRIVE	
FINISH CARE	
EXTERIOR FINISH CARE	
FIELD REPAIR of TEXTURE PAINT	
MAINTENANCE SCHEDULE	
 SECTION 6 - LUBRICATION	
LUBRICATION	
 SECTION 7 - FAULT FINDING	
Fault Finding Chart	
 SECTION 8 - PARTS ORDERING	
PARTS ORDERING	
GENERAL	
DESCRIPTION	
FASTENERS	
MARKINGS AND DECALS	
HOW TO USE PARTS LIST	
HOW TO ORDER	
TERMS AND CONDITIONS ON PARTS ORDERS	
AIREND EXCHANGE PROGRAM	
 SECTION 9 - PARTS LIST	

FOREWORD



Nothing contained in this document is intended to extend any promise, warranty or representation, expressed or implied, regarding the Ingersoll-Rand products described herein. Any such warranties or other terms and conditions of sale of products shall be in accordance with the standard terms and conditions of sale for such products, which are available upon request.

This manual contains instructions and technical data to cover all routine operation and scheduled maintenance tasks by operation and maintenance staff. Major overhauls are outside the scope of this manual and should be referred to an authorized Ingersoll-Rand service department.

All components, accessories, pipes and connectors added to the compressed air system should be:

- of good quality, procured from a reputable manufacturer and, wherever possible, be of a type approved by Ingersoll-Rand.
- clearly rated for a pressure at least equal to the machine maximum allowable working pressure.
- compatible with the compressor lubricant/coolant.
- accompanied with instructions for safe installation, operation and maintenance.

Details of approved equipment are available from Ingersoll-Rand Service departments. The use of repair parts other than those included within the Ingersoll-Rand approved parts list may create hazardous conditions over which Ingersoll-Rand has no control. Therefore, Ingersoll-Rand cannot be held responsible for equipment in which non-approved repair parts are installed.

Ingersoll-Rand reserves the right to make changes and improvements to products without notice and without incurring any obligation to make such changes or add such improvements to products sold previously.

The intended uses of this machine are outlined below and examples of unapproved usage are also given. However, Ingersoll-Rand cannot anticipate every application or work situation that may arise. **If in doubt, consult supervision.**

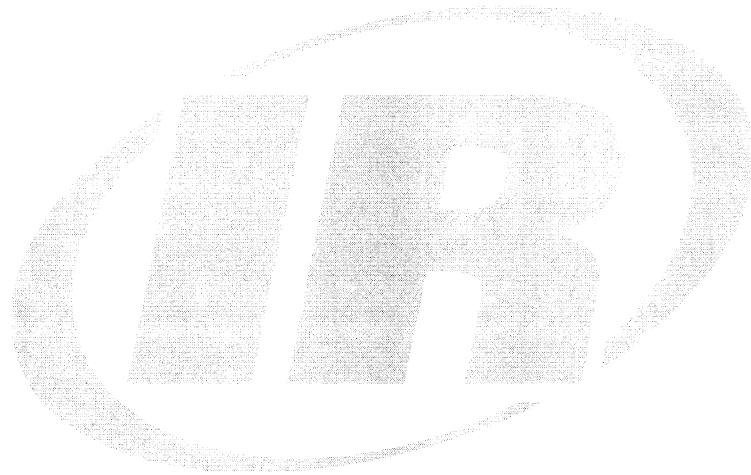
This machine has been designed and supplied for above ground operation to be used for compression of normal ambient air containing no additional gases, vapors or particles within the ambient temperature range specified in the general data section of this manual.

This machine should not be used:

1. For direct or indirect human consumption of the compressed air.
- B. Outside the ambient temperature range of minus 20°F to 115°F.
- C. When an actual or foreseeable risk of hazardous levels of flammable gases or vapors exists.
- D. With other than Ingersoll-Rand approved components.
- E. With guards, or controls or switches missing or disabled.
- F. For storage or transportation of materials inside or on the enclosure.

This company accepts no responsibility for errors in translation of this manual from the original English version.

SECTION 1 - SAFETY



SAFETY PRECAUTIONS

General Information

Ensure that the operator reads and understands the decals and consults the manuals before maintenance or operation.

Ensure that the Operation and Maintenance manual, and the manual holder if equipped, are not removed permanently from the machine.

Ensure that maintenance personnel are adequately trained, competent and have read the manuals.

Make sure that all protective covers are in place and that the canopy/doors are closed during operation.

The specification of this machine is such that the machine is not suitable for use in flammable gas risk areas. If such an application is required then all local regulations, codes of practice and site rules must be observed. To ensure that the machine can operate in a safe and reliable manner, additional equipment such as gas detection, exhaust spark arrestors, and intake (shut-off) valves may be required, dependent on local regulations or the degree of risk involved.

Air discharged from this machine may contain carbon monoxide or other contaminants which will cause serious injury or death. Do not breathe this air.

Compressed air can be dangerous if incorrectly handled. Before doing any work on the unit, ensure that all pressure is vented from the system and that the machine cannot be started accidentally.

Ensure that the machine is operating at the rated pressure and that the rated pressure is known to all relevant personnel.

All air pressure equipment installed in or connected to the machine must have safe working pressure ratings of at least the machine safety valve rating.

If more than one compressor is connected to one common downstream plant, effective check

valves and isolation valves must be fitted and controlled by work procedures, so that one machine cannot accidentally be pressurized or over pressurized by another.

Compressed air must not be used for a feed to any form of breathing apparatus or mask.

The discharged air contains a very small percentage of compressor lubricating oil and care should be taken to ensure that downstream equipment is compatible.

If the discharged air is to be ultimately released into a confined space, adequate ventilation must be provided.

When using compressed air, always use appropriate personal protective equipment.

All pressure containing parts, especially flexible hoses and their couplings, must be regularly inspected, be free from defects and be replaced according to the Manual instructions.

Avoid bodily contact with compressed air.

Never operate unit without first observing all safety warnings and carefully reading the operation and maintenance manual shipped from the factory with this machine.

Never operate the engine of this machine inside a building without adequate ventilation. Avoid breathing exhaust fumes when working on or near the machine. Do not alter or modify this machine.

A battery contains sulfuric acid and can give off gases which are corrosive and potentially explosive. Avoid contact with skin, eyes and clothing. In case of contact, flush area immediately with water.

Exercise extreme caution when using booster battery. To jump battery, connect ends of one booster cable to the positive (+) terminal of each battery. Connect one end of other cable to the negative (-) terminal of the booster battery and other end to a ground connection away from dead battery (to avoid a spark occurring near any explosive gases that may be present). After starting unit, always disconnect cables in reverse order.

Never operate unit without first observing all safety warnings and carefully reading the operation and maintenance manual shipped from the factory with this machine.

This machine may include such materials as oil, diesel fuel, antifreeze, brake fluid, oil/air filters and batteries which may require proper disposal when performing maintenance and service tasks. Contact local authorities for proper disposal of these materials.

High Pressure Air can cause serious injury or death. Relieve pressure before removing filler plugs/caps, fittings or covers.

Air pressure can remain trapped in air supply line which can result in serious injury or death. Always carefully vent air supply line at tool or vent valve before performing any service.

This machine produces loud noise with the doors open or service valve vented. Extended exposure to loud noise can cause hearing loss. Always wear hearing protection when doors are open or service valve is vented.

Never inspect or service unit without first disconnecting battery cable(s) to prevent accidental starting.

Do not remove the pressure cap from a HOT radiator. Allow radiator to cool down before removing pressure cap.

Do not use petroleum products (solvents or fuels) under high pressure as this can penetrate the skin and result in serious illness. wear eye protection while cleaning unit with compressed air to prevent debris from injuring eye(s).

Disconnected air hoses whip and can cause serious injury or death. Always attach a safety flow restrictor to each hose at the source of supply or branch line in accordance with OSHA Regulation 29CFR Section 1926.302(b).

Hot pressurized fluid can cause serious burns. Do not open radiator while hot.

Rotating fan blade can cause serious injury. Do not operate without guard in place.

Use care to avoid contacting hot surfaces (engine

exhaust manifold and piping, air receiver and air discharge piping, etc.).

Ether is an extremely volatile, highly flammable gas. USE SPARINGLY! Do NOT use ETHER if unit has GLOW Plug starting aid. Engine damage will result.

Never allow the unit to sit stopped with pressure in the receiver-separator system. As a precaution, open the manual blowdown valve.

Never operate unit with guards, covers or screens removed. Keep hands, hair, clothing, tools, blow gun tips, etc. well away from moving parts.

Make sure wheels, tires and tow bar connectors are in safe operating condition and tow bar is properly connected before towing.

Whenever the machine is stopped, air will flow back into the compressor system from devices or systems downstream of the machine unless the service valve is closed. Install a check valve at the machine service valve to prevent reverse flow in the event of an unexpected shutdown when the service valve is open.

Hazardous Substance Precaution

The following substances are used in the manufacture of this machine and may be hazardous to health if used incorrectly.

Precaution: Avoid ingestion, skin contact and breathing fumes for the following substances: Antifreeze, Compressor Oil, Engine Lubricating Oil, Preservative Grease, Rust Preventative, Diesel Fuel and Battery Electrolyte.

The following substances may be produced during the operation of this machine and may be hazardous to health:

Avoid build-up of Engine Exhaust Fumes in confined spaces.

Avoid breathing Exhaust Fumes.

Avoid breathing Brake Lining Dust during maintenance.

SAFETY LABELS

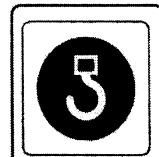
Look for these signs on machines shipped to international markets outside North America, which point out potential hazards to the safety of you and others. Read and understand thoroughly. Heed warnings and follow instructions. If you do not understand, inform your supervisor.



Corrosion risk



Hot Surface



Lifting point



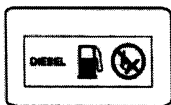
WARNING: Electrical shock risk.



Parking Brake



No open flame



Diesel Fuel.
No open flame.



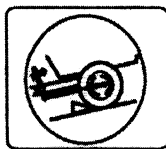
Do not operate the machine
without guard being fitted.



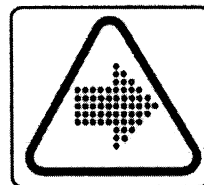
Lifting point



WARNING - Flammable liquid.



When parking use prop stand,
handbrake and wheel chocks.



Air/gas flow or Air discharge.



WARNING - Hot and harmful exhaust gas.



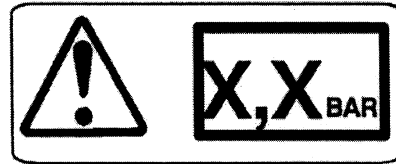
Tie down point



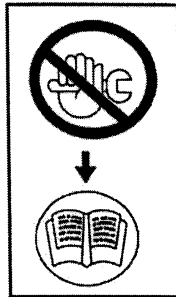
Do not breathe the compressed
air from this machine.



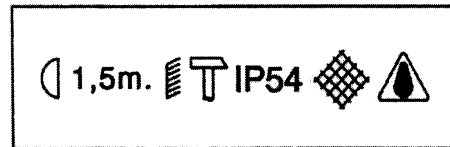
Read the Operation and Maintenance manual before operation or maintenance of this machine is undertaken.



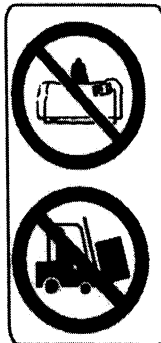
WARNING - Maintain correct tire pressure. (Refer to the GENERAL INFORMATION section of this manual).



WARNING: Consult the operation and maintenance manual before performing any maintenance.

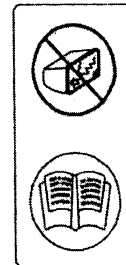


Rough Service Designation
Wet Location Operation



Do not stack

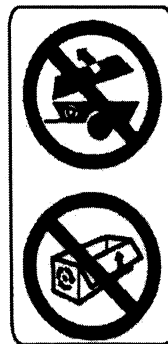
Do not use fork lift truck from this side



Replace any cracked protective shield.



Do not operate with the doors or enclosure open.



On (power).

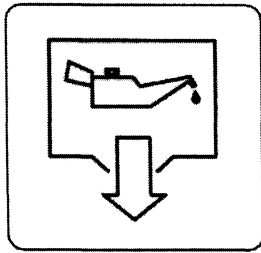


Off (power).

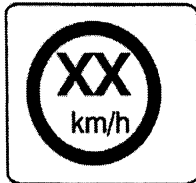


Emergency stop.

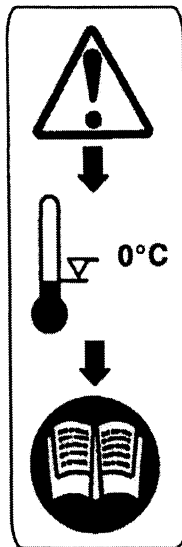
WARNING - Before connecting the tow bar or when preparing to tow, consult the operation and maintenance manual.



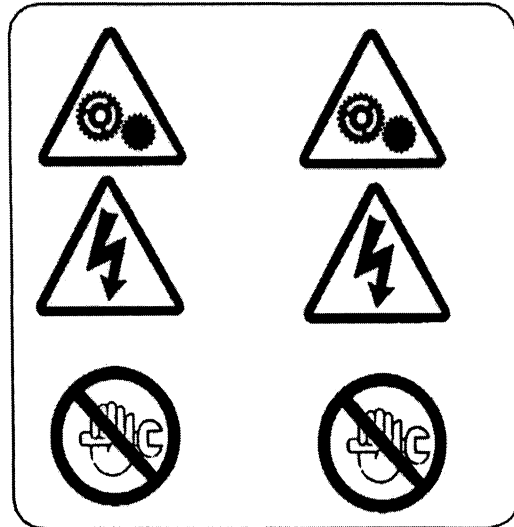
Oil Drain



Do not exceed the speed limit.



WARNING - For operating temperature below 0°C, consult the operation and maintenance manual.



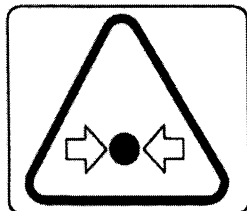
WARNING - Do not undertake any maintenance on this machine until the electrical supply is disconnected and the air pressure is totally relieved.



Read the Operation and Maintenance manual before operation or maintenance of this machine is undertaken



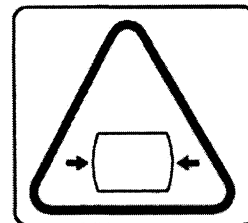
Do not remove the Operating and Maintenance manual and manual holder from this machine.



Pressurized vessel.



Use fork lift truck from this side only.



Pressurized component or system.

Look for these signs on machines shipped to markets in North America, which point out potential hazards to the safety of you and others. Read and understand thoroughly. Heed warnings and follow instructions. If you do not understand, inform you supervisor.



(Red Background)

Indicates the presence of a hazard which **WILL** cause serious injury, death or property damage, if ignored.



(Orange Background)

Indicates the presence of a hazard which **CAN** cause serious injury, death or property damage, if ignored.




(Yellow Background)

Indicates the presence of a hazard which **WILL** or can cause injury or property damage, if ignored.




(Blue Background)


NOTE: Indicates important set-up, operating or maintenance information.



⚠ DANGER


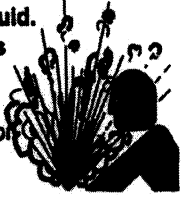


Discharged air can contain carbon monoxide or other contaminants. Will cause serious injury or death. Do not breathe this air.





⚠ WARNING

Hot pressurized fluid. Can cause serious burns. Do not open radiator while hot.



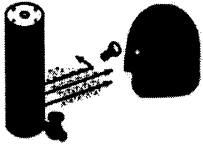
⚠ WARNING


Trapped air pressure. Can cause serious injury or death. Close service valve and operate tool to vent trapped air before performing any service.



⚠ WARNING

High pressure air. Can cause serious injury or death. Relieve pressure before removing filler plugs/caps, fittings or covers.







⚠ WARNING


**Improper operation of this equipment.
Can cause serious injury or death.**
Read Operator's Manual supplied with this machine before operation or servicing.

**Modification or alteration of this machine.
Can cause serious injury or death.**
Do not alter or modify this machine without the express written consent of the manufacturer.


 

⚠ WARNING

**Falling off machine.
Can cause serious injury or death.**



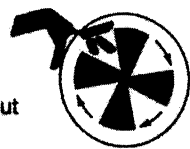
Access lifting bail from inside machine.



⚠ WARNING

**Rotating fan blade.
Can cause serious injury.**

Do not operate without guard in place.






⚠ WARNING

**Disconnected air hoses whip.
Can cause serious injury or death.**

When using air tools attach safety device (OSHA Valve) at source of air supply for each tool.






⚠ WARNING

**Door under pressure.
Can cause serious injury.**

Use both hands to open door when machine is running.







⚠ WARNING

**Combustible gas.
Can cause serious burns,
blindness or death.**

Keep sparks and open flames away from batteries.






CAUTION

**DO NOT WELD.
ELECTRONIC DAMAGE
WILL OCCUR.**

This engine is equipped with an electronic engine controller and other electronic components.




CAUTION

DO NOT USE ETHER.


ENGINE DAMAGE WILL OCCUR.

This engine is equipped with an electric heater starting aid.



WARNING


High pressure air. Can cause serious injury or death.



Relieve pressure before removing filler plugs/caps, fittings or covers.



USE DIESEL FUEL ONLY



NOTICE

COOLANT FILL INSTRUCTIONS

Adding:
Remove radiator cap. Top off at radiator. Use same anti-freeze mixture as in radiator.

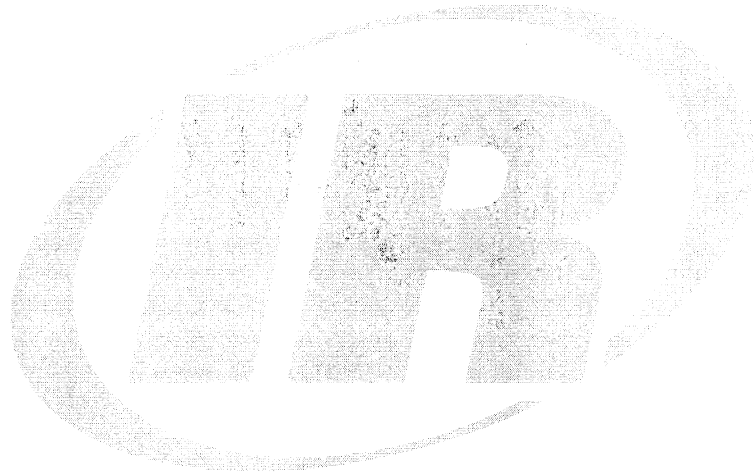
Replacing:
With system cool, remove radiator cap. Drain coolant and close drain. At radiator, refill system. Replace radiator cap. Run for 30 minutes. Stop and allow to cool. At radiator, add coolant as necessary to reach "Cold" level.

FREE SAFETY DECALS!

To promote communication of Safety Warnings on products manufactured by the Portable Compressor Division in Mocksville, N.C., Safety Decals are available **free** of charge. Safety decals are identified by the decal heading: **DANGER, WARNING or CAUTION.**

Decal part numbers are on the bottom of each decal and are also listed in the compressor's parts manual. Submit orders for Safety Decals to the Mocksville Parts Service Department. The no charge order should contain only Safety Decals. Help promote product safety! Assure that decals are present on the machines. Replace decals that are not readable.

SECTION 2 - WARRANTY



WARRANTY

Warranty Information

Ingersoll-Rand, through its distributor, warrants that each item of equipment manufactured by it and delivered hereunder to the initial user will be free of defects in material and workmanship for a period of the earlier of twelve (12) months from shipment to or the accumulation of 2000 hours of service by the initial user.

Portable compressor airends will be free of defects in material and workmanship for a period of the earlier of twenty four months from shipment to or the accumulation of 4000 hours of service by the initial user. The warranty against defects will include replacement of the complete airend, provided the original airend is returned assembled and unopened.

Portable compressor Airend Limited Optional Warranty - The earlier of sixty (60) months from shipment to or the accumulation of 10,000 hours of service. The optional warranty is limited to defects in rotors, housings, bearings, and gears and provided all the following conditions are met:

1. The original air end is returned assembled and unopened.
2. Continued use of genuine Ingersoll-Rand parts, fluids, oil and filters.
3. Maintenance is performed at prescribed intervals.

Oil-Free airends are fee-based and may require a maintenance agreement. Formal enrollment is required.

Ingersoll-Rand will provide a new part or repaired part, at its election, in place of any part which is found upon its inspection to be defective in material and workmanship during the period prescribed above. Such part will be repaired or replaced without charge to the initial user during normal working hours at the place of business of an Ingersoll-Rand distributor authorized to sell the type of equipment involved or other establishment authorized by Ingersoll-Rand. User must present proof of purchase at the time of exercising warranty.

The above warranty does not apply to failures occurring as a result of abuse; misuse, negligent repairs, corrosion, erosion and normal wear and tear, alterations or modifications made to the product without express written consent of Ingersoll-Rand; or failure to follow the recommended operating practices and maintenance procedures as provided in the product's operating and maintenance publications.

Accessories or equipment furnished by Ingersoll-Rand, but manufactured by others, including, but not limited to, engines, tires, batteries, engine electrical equipment, hydraulic transmissions, carriers, shall carry whatever warranty the manufacturers have conveyed to Ingersoll-Rand and which can be passed on to the initial user.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, (EXCEPT THAT OF TITLE), AND THERE ARE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

GENERAL WARRANTY INFORMATION

GENERAL WARRANTY			Extended Coverage
Portable Compressor	Package	1 year/2000 hrs	
	Airend	2 yrs/4000 hrs	5 yrs/10,000 hrs Limited warranty, major components (refer to operator's manual).

Portable Genset 8KW, 11KW, 20KVA thru 575KVA	Package	1 year/2000 hrs	None
	Generator	2 yrs/4000 hrs	None

Portable Genset 3.5KW thru 7.0KW and 10KW	Package	1 yr/2000 hrs (parts only)	None
	Generator	1 yrs/2000 hrs (parts only)	None

Light Tower	Package	1 year/2000 hrs	
	Generator	1 year/2000 hrs	2 years/4000 hours, for Lightsource introduced 8/16/99.

ENGINES			
CATERPILLAR	Months	Hours	Extended Coverage
	12	unlimited	Available at dealer
CUMMINS	24	2000	Major components 3 yrs/10,000 hrs Available at dealer
JOHN DEERE (in compressors)	24	2000	5 yrs/5000 hrs using OEM fluids and filters with \$250 deductible 2 yrs/4000 hrs using IR fluids and filters
(in generators as of 1/1/01)	24	2000	
DEUTZ	24	2000	Available at dealer

INGERSOLL-RAND	24	4000	5 yrs/10,000 hrs when using genuine Ingersoll-Rand fluids and parts. Refer to operator's manual.
KUBOTA (North America only) (Western Europe & Oceania) (Central & South America, Asia, Middle East & Africa)	24 24 12	2000 2000 1000	Major components 36 mo/3000 hrs (parts only) None None
mitsubishi	24	2000	2 yrs/4000 hrs using IR fluids & filters
VOLVO	24	2000	2 yrs/4000 hrs using IR fluids & filters
HONDA	12	unlimited	None
VANGUARD	24	unlimited	None

PARTS			
Ingersoll-Rand	Months	Hours	Coverage
	6	No Limit	Parts Only

AIREND EXCHANGE			
Airend	Months	Hours	Extended Coverage
	12	2000 hours	2 yrs/4000 hrs - available from IR.

Note: Actual warranty times may change. Consult the manufacturer's warranty policy as shipped with each new product.

WARRANTY REGISTRATION

Complete Machine Registration

Machines shipped to locations within the United States do not require a warranty registration unless the machine status changes (i.e. change of ownership).

Machines shipped outside the United States require notification be made to initiate the machine warranty.



Fill out Warranty Registration Form in this section, keep a copy for your records and mail form to:

Ingersoll-Rand Company
Portable Compressor Division
P.O. Box 868
Mocksville, North Carolina 27028

Attn.: Warranty Department

Note: Completion of this form validates the warranty.

<u>Selling Distributor</u>	<u>Servicing Distributor</u>	WARRANTY REGISTRATION
Name _____	Name _____	Owner/User Name _____
Address _____	Address _____	Address _____
City _____	City _____	City _____
County _____	County _____	County _____
State _____	State _____	State _____
Zip code _____	Zip code _____	Zip code _____
Telephone _____	Telephone _____	Telephone _____

Complete the Applicable Blocks

Owner/User Type of Business (check one only)

<input type="checkbox"/> Construction-Heavy (highway, excavation, etc.)	<input type="checkbox"/> Asphalt Contractor	<input type="checkbox"/> Coal Mining	<input type="checkbox"/> Other Mining
<input type="checkbox"/> Construction-Light (carpentry, plumbing, pools, mason, etc.)	<input type="checkbox"/> Government (municipal, state, county, etc.)	<input type="checkbox"/> Quarry	<input type="checkbox"/> Shallow Oil & Gas
<input type="checkbox"/> Rental (rental center, rental fleet, etc.)	<input type="checkbox"/> Building Contractor	<input type="checkbox"/> Water well	<input type="checkbox"/> Utility Company (gas, electric, water, etc.)
<input type="checkbox"/> Industrial (plant use)	<input type="checkbox"/> Other specify _____	<input type="checkbox"/> Exploration	<input type="checkbox"/> Utility Contractor

Model S/N	Unit S/N	Engine S/N	Date delivered
_____	_____	_____	_____
Unit-Hours	Airend S/N	Truck S/N	Truck Engine S/N
_____	_____	_____	_____

SERVICING DISTRIBUTOR / USER ACKNOWLEDGEMENT
1. The Purchaser has been instructed and/or has read the manual and understands proper preventative maintenance, general operation and safety precautions.
2. The warranty and limitation of liability has been reviewed and understood by the owner/user.
3. In the event that this unit is to be used within a nuclear facility, the owner/user shall notify Ingersoll-Rand of such use so that Ingersoll-Rand may arrange for appropriate nuclear liability protection from the owner-licensee of the facility.
4. Ingersoll-Rand reserves the right to make design changes or modifications of Ingersoll-Rand products at anytime without incurring any obligation to make similar changes or modifications on previously sold units.

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Ingersoll-Rand Company
Portable Compressor Division
P.O. Box 868
Mocksville, North Carolina 27028

Attention: Warranty Department

SECTION - 3 GENERAL DATA



GENERAL DATA

SPECIFICATIONS

UNIT MODELS

9/235HA IR

Air Delivery - cfm (liters/sec.)

23,4 m³/min (825 CFM)

COMPRESSOR

Normal Operating Discharge Pressure - psi (kPa)	8,6 bar (125 psi)
Maximum Allowable Pressure	10,3 bar (150 psi)
Safety Valve Setting	14 bar (200 psi)
Maximum Pressure Ratio (absolute)	9,6:1
Operating Ambient Temperature (CE Whisperized)	12°C to + 49°C (10°F to 115°F)
HA (High Ambient)	12°C to + 49°C (10°F to 115°F)
Cooling System	Oil Injection
Oil Capacity	64 litres (17 gal)
Maximum oil system temperature	120°C to + 248°F

ENGINE

Type/Model	IR 6IRC8A
Number of Cylinders	6
Oil Capacity	31.7 litres (8.4 gal)
Full Load Speed	2000 revs
No Load (Idle) Speed - rpm	1500 revs
Power available at Full Load	205kW (275 hp)

ELECTRICAL SYSTEM

9/235	24 V neg. ground
Fuel Tank Capacity	462 litres (122 gal)
Oil Specification	Refer to engine manual
Coolant Capacity	34 litres (9 gal)

WHEELS and TIRES

Tire Size	7.50-16LT
Tire Pressure	4.5 bar (65 psi)
Net Weight (less fuel)	3600KG (7950 lb)

SECTION 4 - OPERATION



COMMISSIONING

Upon receipt of the unit, and prior to putting it into service, it is important to adhere strictly to the instructions given below in PRIOR TO STARTING.

Ensure that the operator reads and understands the decals and consults the manual before maintenance or operation.

Ensure that the position of the emergency stop device is known and recognized by its markings. Ensure that it is functioning correctly and that the method of operation is known.

Before towing the unit, ensure that the tire pressures are correct (refer to General Data). Before towing the unit, ensure that the lights are functioning correctly (where fitted).

Ensure that all transport and packing materials are discarded.

Ensure that the correct fork lift truck slots or marked lifting/tie down points are used whenever the machine is lifted or transported.

When selecting the working position of the machine, ensure that there is sufficient clearance for ventilation and exhaust requirements.

Adequate clearance needs to be allowed around and above the machine to permit safe access to specified maintenance tasks.

Ensure that the machine is positioned securely and on a stable foundation. Any risk of movement should be removed by suitable means, especially to avoid strain on any rigid discharge piping.

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COMPRESSOR MOUNTING

Portable compressors, which are modified to remove the running gear and mount the machine direct to trailers, truck beds or frame, etc. may experience failure of the enclosure, frame, and/or other components. It is necessary to isolate the compressor package from the carrier base with a flexible mounting system. Such a system must also prevent detachment of the package from the carrier base in the event the isolators fail. Contact Ingersoll-Rand representative for flexible mounting kits.

Warranty does not cover failures attributable to mounting of the compressor package to the carrier base unless it is an Ingersoll-Rand provided system..

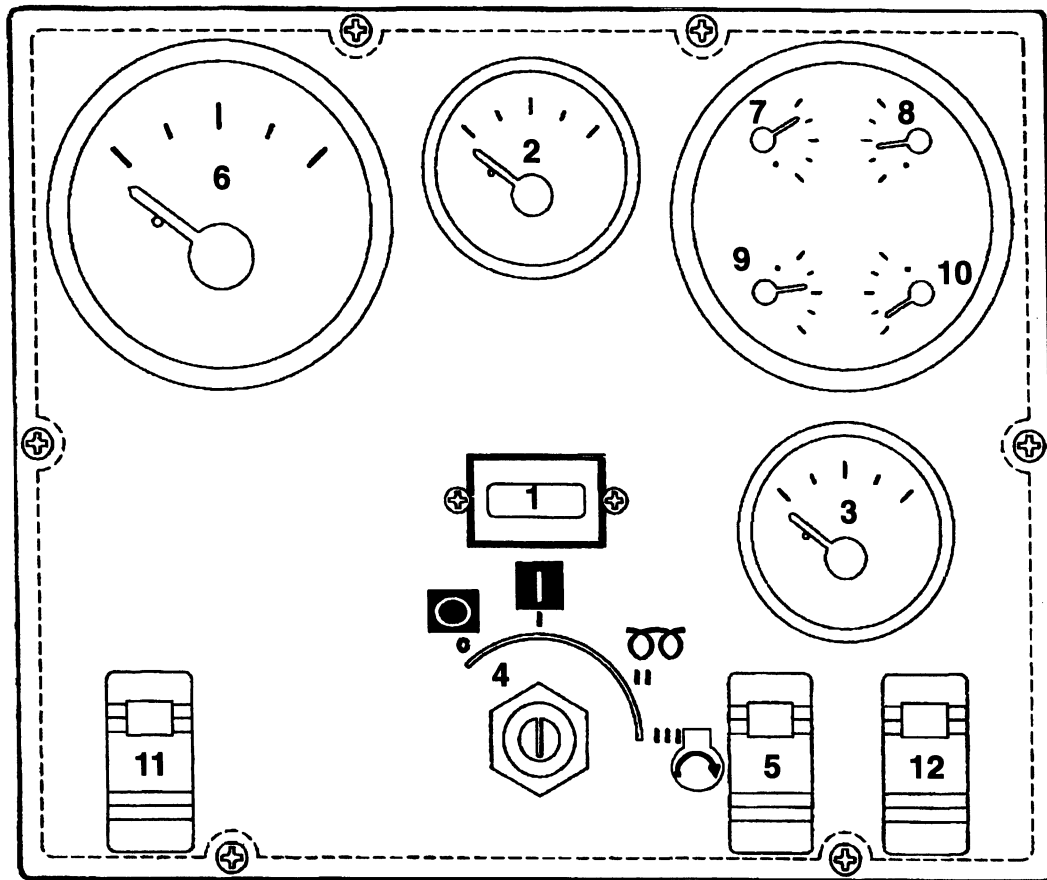


All air pressure equipment installed in or connected to the machine must have safe working pressure ratings of at least the machine safety valve setting, and materials compatible with the compressor lubricant.



If more than one compressor is connected to one common downstream plant, effective check valves and isolation valves must be fitted and controlled by work procedures, so that one machine cannot accidentally be pressurized/ over pressurized by another. When flexible discharge hoses are used, it is recommended that safety retaining wires are fitted.

Control Panel



1. Hourmeter - Records running time for maintenance.

2. Compressor Discharge Pressure Gauge - Indicates pressure in receiver tank .

3. Fuel Level Gauge - Indicates amount of fuel in tank.

4. Power Switch -Activates systems for STARTING and STOPPING.

5. Service Air Switch - After warm-up, PUSH. Provides full air pressure at the service outlet. Allows unit to warm-up at reduced pressure.

6. Engine Speed Gauge - Indicates engine speed (RPM).

7. Discharge Air Temp. Gauge - Indicates aircnd discharge temperature.

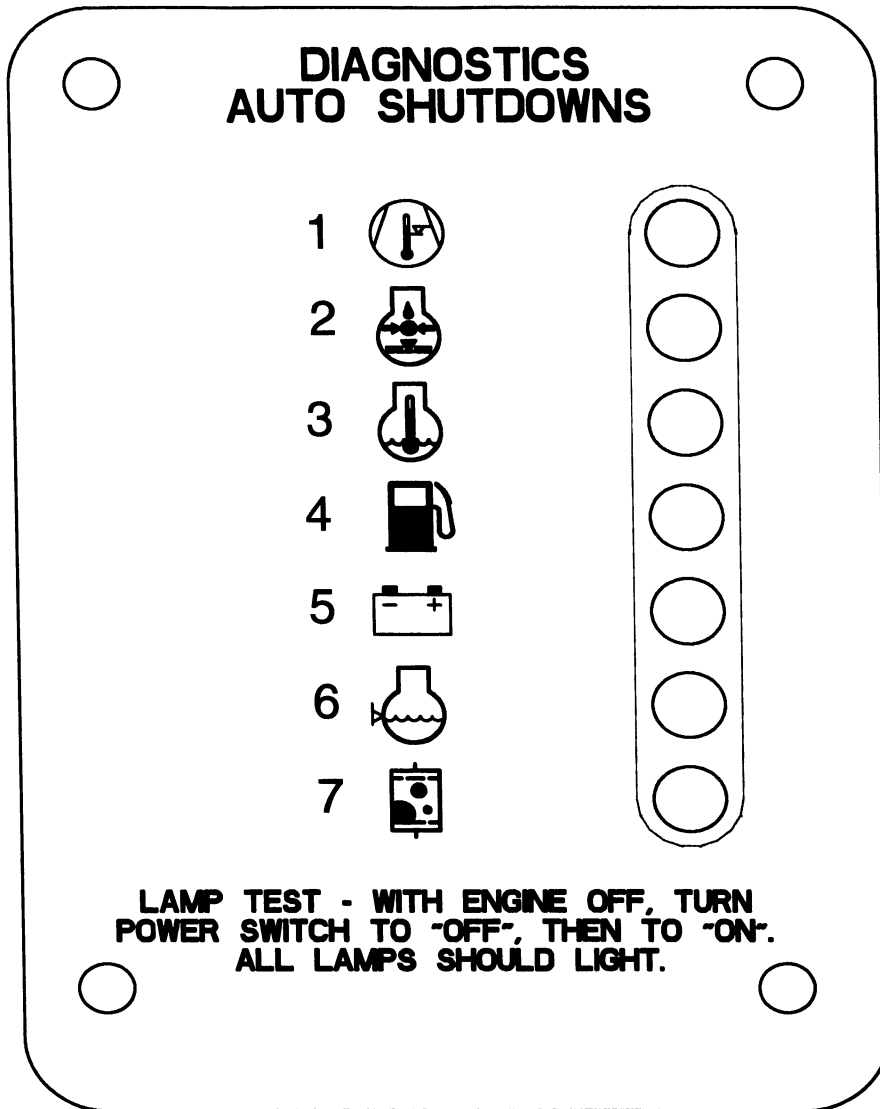
8. Engine Oil Pressure Gauge - Indicates engine oil pressure.

9. Engine Water Temp Gauge - Indicates coolant temperature, with normal operating range from 180°F/82°C to 210°F /99°C.

10. Voltmeter - Indicates charging system voltage.

11. Spare- Used for optional accessories.

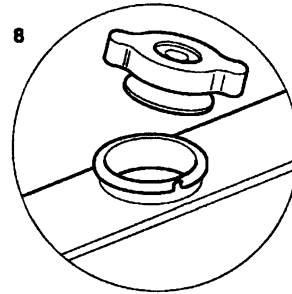
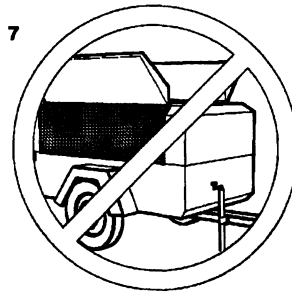
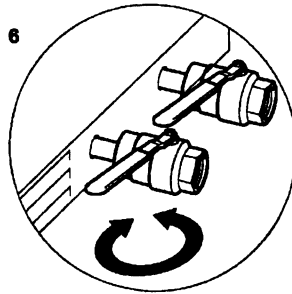
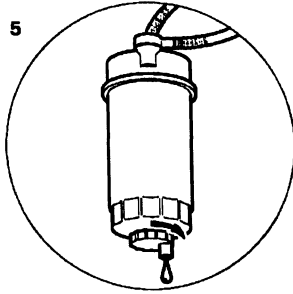
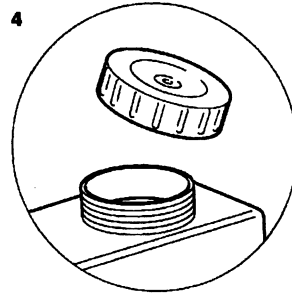
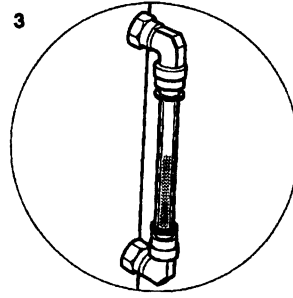
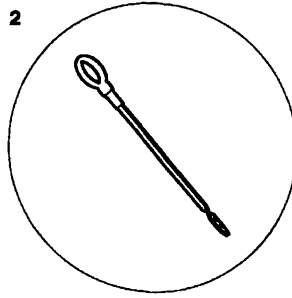
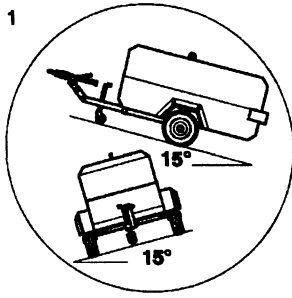
12. Ether Injection - In cold weather, push once or twice during cranking. This injects a measured amount of Ether to the engine.



DIAGNOSTIC DISPLAY PANEL.

The diagnostic display panel is arranged as shown above. A description of each diagnostic indicator is as follows.

1. **High Compressor Temp:** Fault indicator lamp. Indicates shutdown due to high compressor temperature.
2. **Low Engine Oil Pressure:** Fault indicator lamp. Indicates shutdown due to low engine oil pressure.
3. **High Engine Coolant Temp:** Fault indicator lamp. Indicates shutdown due to high engine water temperature.
4. **Low Fuel Level:** Fault indicator lamp. Indicates shutdown due to low fuel level. Lamp blinks at low fuel warning.
5. **Low Battery Voltage:** Alarm indicator lamp. Indicates battery or charging system requires service.
6. **Low Engine Coolant Level:** Alarm indicator lamp. Indicates coolant level in engine radiator is low.
7. **Restricted Air Filter:** Alarm indicator lamp. Indicates engine/compressor air inlet filters need service.



T2221
Revision 00
12/00

PRIOR TO STARTING

1. Place the unit in a position that is as level as possible. The design of the unit permits a 15 degree lengthways and sideways limit out of level operation.

When the unit has to be operated out of level, it is important to keep the engine oil level near the high level mark (with the unit level).

2. Check the engine lubrication oil in accordance with the operating instructions in the *Engine Operator's Manual* or *section*.

3. Check the compressor oil level in the sight glass located on the separator tank.

4. Check the diesel fuel level. A good rule is to top up at the end of each working day. This prevents condensation from occurring in the tank. Refer to the engine operator's manual/section for diesel fuel specification.

CAUTION: When refuelling:-

- . switch off the engine.
- . do not smoke.
- . extinguish all naked lights.
- . do not allow the fuel to come into contact with hot surfaces.
- . wear personal protective equipment.

5. Drain the fuel filter water separator of water, ensuring that any released fuel is safely contained.

6. Open the service valve(s) to ensure that all pressure is relieved from the system. Close the service valve(s).

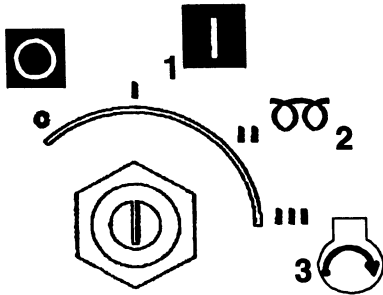
7. CAUTION: Do not operate the machine with the canopy/doors in the open position as this may cause overheating and operators to be exposed to high noise levels.

8. Check the radiator coolant level (with the unit level).

Check the air filter restriction indicator(s). Refer to the *MAINTENANCE* section of this manual.

When starting or operating the machine in temperatures below or approaching 0°C (32°F), ensure that the operation of the regulation system, the unloader valve, the safety valve, and the engine are not impaired by ice or snow, and that all inlet and outlet pipes and ducts are clear of ice and snow.

STARTING THE MACHINE



All normal starting functions are incorporated in the key operated switch.

- Turn the key switch to position 1. The diagnostic lamps will flash..
- Turn the key switch to crank position (3) (engine start position)
- NOTE: Position (2) not used on this model. Pre-heaters or glow plugs are not fitted on this model.

In cold weather, push Ether Injection Switch once or twice during cranking. This injects a measured amount of ether to the engine..

CAUTION: *ETHER is an extremely volatile, highly flammable gas. Use sparingly! If too much is injected, the uncontrolled explosion may result in costly damage to the engine.*

- Release to position (1) when engine starts. The engine will now be running at a reduced speed.

At temperatures below 32°F (0°C) or if there is difficulty starting first time:

- Open the manual blowdown valve fully.
- Complete starting sequence above.
- Close manual blowdown valve as soon as engine runs freely.
- Do not allow machine to run for long periods with manual blowdown valve open.
- Allow the engine to reach operating temperature.
- At this point in the operation of the machine it is safe to apply full load to the engine.

NOTE: Wear hearing protection at all times when the engine is started with the manual blowdown valve open and air is flowing from the valve.

PUSH AFTER WARM UP

NOTE: In order to allow the machine to start at a reduced load, a valve, which is operated by a button located on the instrument panel, is incorporated in the regulation system. (The valve automatically returns to the start position when the machine is switched off and air pressure relieved from the system).

- Allow the engine to reach its operating temperature - then press the button .
- At this point in the operation of the machine it is safe to apply *full load* to the engine.

DUAL PRESSURE REGULATION WHEN FITTED

Machines which operate in excess of 7 bar (100 psi) can optionally be fitted with a dual pressure switch inside the unit. This switch selects between 7 bar (100 psi) and the machine rated pressure, cfm remains nominally constant.

Starting and stopping are unaffected by the selection and during normal running the selector switch may be safely operated. Precaution must be taken to ensure that downstream equipment is rated to suit the available pressure.

The pressure gauge indicates which setting has been selected.

STOPPING THE MACHINE

- Close the service valve.
- Allow the machine to run unloaded for a short period of time to reduce the engine temperature.
- Turn the start switch to the 0 (off) position.

NOTE: As soon as the engine stops, the automatic blowdown valve will relieve pressure from the system.

If the automatic blowdown valve fails to operate, then pressure must be relieved from the system by means of the manual blowdown valve(s).

CAUTION: *Never allow the machine to stand idle with pressure in the system.*

EMERGENCY STOPPING

In the event that the unit has to be stopped in an emergency, TURN THE KEY SWITCH LOCATED ON THE INSTRUMENT PANEL TO THE 0 (OFF) POSITION, or push the EMERGENCY STOP SWITCH (when fitted).

RE-STARTING AFTER AN EMERGENCY

If the machine has been switched off because of a machine malfunction, then identify and correct the fault before attempting to re-start.

If the machine has been switched off for reasons of safety, then ensure that the machine can be operated safely before re-starting.

Refer to the *PRIOR TO STARTING* and *STARTING THE MACHINE* instructions earlier in this section before re-starting the machine.

MONITORING DURING OPERATION

Should any of the safety shut-down conditions occur, the unit will stop.

Refer to the diagnostic display page for a listing of shutdown conditions.

CAUTION: *To ensure an adequate flow of oil to the compressor at low temperature, never allow the discharge pressure to fall below 3,5 bar (50 psi)*

DECOMMISSIONING

When the machine is to be permanently decommissioned or dismantled, it is important to ensure that all hazard risks are either eliminated or notified to the recipient of the machine. In particular:-

- . Do not destroy batteries or components containing asbestos without containing the materials safely.
- . Do not dispose of any pressure vessel that is not clearly marked with its relevant data plate information or rendered unusable by drilling, cutting etc.
- . Do not allow lubricants or coolants to be released into land surfaces or drains.
- . Do not dispose of a complete machine without documentation relating to instructions for its use.

SECTION 5 - MAINTENANCE



MAINTENANCE

	Initial 500 miles /850 km	Daily	Weekly	Monthly	3 Months 500 hrs.	6 Months 1000 hrs	12 Months 2000 hrs
Compressor Oil Level		C					
Engine Oil Level		C					
*Radiator Coolant Level		C					
Gauges/Lamps		C					
*Air Cleaner Service Indicators		C					
Fuel Tank (Fill at end of day)		C				D	
*Fuel/Water Separator Drain		C					
Oil Leaks		C					
Fuel Leaks		C					
Drain Water From Fuel Filters		D					
Coolant Leaks		C					
Radiator Filler Cap		C					
Air Cleaner Precleaner Dumps			C				
Fan/Alternator Belts			C				
Battery Connections/Electrolyte			C				
Tire Pressure and Surface			C				
*Wheel Lug Nuts				C			
Hoses (Oil, Air, Intake, etc.)				C			
Automatic Shutdown System				C			
Air Cleaner System				C			
Compressor Oil Cooler Exterior				C			
*Engine Rad/Oil Cooler Exterior				C			
Fasteners, Guards					C		
Air Cleaner Elements					R/WI		

*Disregard if not appropriate for this particular machine.

(1) or 3000 miles/5000km whichever is the sooner

C = Check (adjust, clean or replace as necessary)

CBT =check before towing.

CR = Check and report

D = Drain

G = Grease

R=Replace

T = Test

W I =or when indicated if earlier.

Refer to specific sections of the operator's manual for more information.

	Initial 500 miles /850 km	Daily	Weekly	Monthly	3 Months 500 hrs.	6 Months 1000 hrs	12 Months 2000 hrs	18 Months 3000 hrs
*Fuel/Water Separator Element					R			
Compressor Oil Filter Element					R			
Compressor Oil						R		
Engine Oil Change					R			
Engine Oil Filter					R			
*Water Pump Grease.							R	
*Wheels (Bearings, Seals, etc.)						C	G	
*Engine Coolant						C	R	
Fuel Filter Element					R			
*Injection Nozzle Check								C
Shutdown Switch Settings							T	
Scavenger Orifice & Related Parts							C	
Oil Separator Element							R	
*Feed Pump Strainer Cleaning.							C	
*Valve Clearance Check							C	
Lights (running, brake, & turn)		CBT						
Pintle Eye Bolts		CBT						
*Brakes	C				C			
*Brake linkage	C							
*Emergency stop		T						
Running gear linkage				G				
Safety valve					C			
Running gear bolts(1)					C			

*Disregard if not appropriate for this particular machine.

(1) or 3000 miles/5000km whichever is the sooner

(2) or as defined by local or national legislation

C = Check (adjust, clean or replace as necessary)

CBT =check before towing.

CR = Check and report

D = Drain

G = Grease

R=Replace

T = Test

W I =or when indicated if earlier.

Refer to specific sections of the operator's manual for more information.

	Initial 500 miles /850 km	Daily	Weekly	Monthly	3 Monthly. 500 hrs.	6 Monthly. 1000 hrs	12 Monthly. 2000 hrs
Scavenge line							C
*Engine breather element							C
Separator tank (2) exterior							CR
*Lubricator (Fill)		C					

	2 Yrs	4 Yrs	6 Yrs				
Safety valve	C						
Hoses		R					
Separator tank (2) interior			C				

*Disregard if not appropriate for this particular machine.

- (1) or 3000 miles/5000km whichever is the sooner
(2) or as defined by local or national legislation

C = Check (adjust, clean or replace as necessary)

CBT =check before towing.

CR = Check and report

D = Drain

G = Grease

R=Replace

T = Test

W I =or when indicated if earlier.

Refer to specific sections of the operator's manual for more information.

ROUTINE MAINTENANCE

This section refers to the various components which require periodic maintenance and replacement.

The *MAINTENANCE CHART* indicates the various components' descriptions and the intervals when maintenance has to take place. Oil capacities, etc., can be found in the *GENERAL DATA SECTION* of this manual.

For any specification or specific requirement on service or preventative maintenance for the engine, refer to the *Engine Section*.

Compressed air can be dangerous if incorrectly handled. Before doing any work on the unit, ensure that all pressure is vented from the system and that the machine cannot be started accidentally.

If the automatic blowdown fails to operate, then pressure must be gradually relieved by operating the manual blowdown valve. Suitable personal protective equipment should be worn.

Ensure that maintenance personnel are adequately trained, competent and have read the Maintenance Manuals.

Prior to attempting any maintenance work, ensure that:-

- all air pressure is fully discharged and isolated from the system. If the automatic blowdown valve is used for this purpose, then allow enough time for it to complete the operation.
- the discharge pipe / manifold area is depressurised by opening the discharge valve, while keeping clear of any airflow from it.

WARNING: Pressure will remain in the system between the minimum pressure valve and the service valve after shutdown and operation of the auto blowdown valve.

This pressure must be relieved by :

- Disconnecting any downstream equipment.
- Opening the discharge valve to atmosphere.

- the machine cannot be started. Post warning signs and/or fit anti-start devices.

- Disconnect battery cables.

Prior to opening or removing panels or covers to work inside a machine, ensure that:-

- anyone entering the machine is aware of the reduced level of protection and the additional hazards, including hot surfaces and intermittently moving parts.

- The machine cannot be started.

Prior to attempting any maintenance work on a running machine, ensure that:-

- the work carried out is limited to only those tasks which require the machine to run.

- the work carried out with safety protection devices disabled or removed is limited to only those tasks which require the machine to be running with safety protection devices disabled or removed.

. all hazards present are known (e.g. pressurised components, electrically live components, removed panels, covers and guards, extreme temperatures, inflow and outflow of air, intermittently moving parts, safety valve discharge etc.).

- . appropriate personal protective equipment is worn.
- . loose clothing, jewelry, long hair etc. is made safe.
- . warning signs indicating that *Maintenance Work is in Progress* are posted in a position that can be clearly seen.

Upon completion of maintenance tasks and prior to returning the machine into service, ensure that:-

- . the machine is suitably tested.
- . all guards and safety protection devices are refitted.
- . all panels are replaced, canopy and doors closed.
- . hazardous materials are effectively contained and disposed of.

PROTECTIVE SHUTDOWN SYSTEM

Refer to the diagnostic display codes table for a listing of shutdown conditions.

Low engine fuel level switch.

Test the low engine fuel level switch circuit as follows:

- . Start the machine.

Note: Do not press the load button.

- . Disconnect the switch, the machine should shutdown.
- . Re-connect the switch.

Test the low engine fuel level switch by removing and operating the float manually.

WARNING: Never remove or replace switches when the machine is running.

SCAVENGE LINE

The scavenge line runs from the combined orifice/drop tube in the separator tank, to the orifice fitting located in the airend.

Check that the scavenge line and tube are clear of any obstruction each time the compressor lubricant is changed as any blockage will result in oil carryover into the discharge air.

COMPRESSOR OIL FILTER

Refer to the *MAINTENANCE CHART* in this section for the recommended servicing intervals.

Removal

WARNING: Do not remove the filter(s) without first making sure that the machine is stopped and the system has been completely relieved of all air pressure. (Refer to *STOPPING THE MACHINE* in the *OPERATING INSTRUCTIONS* section of this manual).

Clean the exterior of the filter housing and remove the *spin-on* element.

Inspection

Inspect the oil filter head to be sure the gasket was removed with the oil filter element. Clean the gasket seal area on the oil filter head.

CAUTION: If there is any indication of the formation of varnishes, shellacs or lacquers on the filter element, it is a warning that the compressor lubricating and cooling oil has deteriorated and that it should be changed immediately. Refer to *LUBRICATION* later in this section.

NOTICE: Installing a new oil filter element when the old gasket remains on the filter head, will cause an oil leak and can cause property damage.

Reassembly

Clean the filter gasket contact area and install the new element. Tighten until the gasket makes contact with the filter housing. Tighten an additional $\frac{1}{2}$ to $\frac{3}{4}$ of a revolution.

CAUTION: Start the machine (refer to *PRIOR TO STARTING* and *STARTING THE MACHINE* in the *OPERATING INSTRUCTIONS* section of this manual) and check for leakage before the machine is put back into service.

COMPRESSOR OIL SEPARATOR ELEMENT

Refer to the *MAINTENANCE CHART* in this section for the recommended servicing intervals.

If, however, the element has to be replaced, then proceed as follows:

Removal

WARNING: Do not remove the filter(s) without first making sure that the machine is stopped and the system has been completely relieved of all air pressure. (Refer to *STOPPING THE MACHINE* in the *OPERATING INSTRUCTIONS* section of this manual).

Disconnect all hoses and tubes from the separator tank cover plate. Remove the drop-tube from the separator tank cover plate and then remove the cover plate. Remove the separator element.

Inspection

Examine the filter element. Examine all hoses and tubes, and replace if necessary.

Reassembly

Thoroughly clean the orifice/drop tube and filter gasket contact area before reassembly. Install the new element.

WARNING
Do not remove the staple from the anti-static gasket on the separator element since it serves to ground any possible static build-up. Do not use gasket sealant since this will affect electrical conductance.

Reposition the cover plate, taking care not to damage the gasket, and replace the cover plate screws tightening in a *criss-cross* pattern to the recommended torque (refer to the *TORQUE SETTING TABLE* later in this section).

Reconnect all hoses and tubes to the separator tank cover plate.

Replace the compressor oil (refer to *LUBRICATION* later in this section).

CAUTION: Start the machine (refer to *PRIOR TO STARTING* and *STARTING THE MACHINE* in the *OPERATING INSTRUCTIONS* section of this manual) and check for leakage before the machine is put back into service.

COMPRESSOR OIL COOLER AND ENGINE RADIATOR

When grease, oil and dirt accumulate on the exterior surfaces of the oil cooler and radiator, the efficiency is impaired. It is recommended that each month the oil cooler and radiator be cleaned by directing a jet of compressed air, (carrying if possible a non-flammable cleaning solvent) over the exterior core of the cooler/radiator. This should remove any accumulation of oil, grease and dirt from the exterior core of the cooler so that the entire cooling area can radiate the heat of the lubricating and cooling oil/water into the air stream.

WARNING: Hot engine coolant and steam can cause injury. When adding coolant or antifreeze solution to the engine radiator, stop the engine at least one minute prior to releasing the radiator filler cap. Using a cloth to protect the hand, slowly release the filler cap, absorbing any released fluid with the cloth. Do not remove the filler cap until all excess fluid is released and the engine cooling system fully depressurised.

WARNING: Follow the instructions provided by the antifreeze supplier when adding or draining the antifreeze solution. It is advisable to wear personal protective equipment to prevent skin and eye contact with the antifreeze solution.

AIR FILTER ELEMENTS

The air filter element should be replaced regularly (refer to the *MAINTENANCE CHART*) or when the restriction indicator shows red, whichever comes first. The aircleaner pre-cleaner dumps should be cleaned as indicated in the *MAINTENANCE CHART* (more frequently in dusty operating conditions).

Removal

CAUTION: Never remove and replace element(s) when the machine is running.

Clean the exterior of the filter housing and remove the filter element by releasing the nut.

Reassembly

Assemble the new element into the filter housing ensuring that the seal seats properly. Secure element by tightening nut.

Before restarting the machine, check that all clamps are tight.

VENTILATION

Always check that the air inlets and outlets are clear of debris etc.

COOLING FAN DRIVE

Periodically check that the fan mounting bolts in the fan hub have not loosened. If, for any reason, it becomes necessary to remove the fan or re-tighten the fan mounting bolts, apply a good grade of commercially available thread locking compound to the bolt threads and tighten to the torque value shown in the *TORQUE SETTING TABLE* later in this section.

The fan belt(s) should be checked regularly for wear and correct tensioning.

FUEL SYSTEM

The fuel tank should be filled daily or every eight hours. To minimise condensation in the fuel tank(s), it is advisable to top up after the machine is shut down or at the end of each working day. Drain any sediment or condensate that may have accumulated in the tank(s). Refer to *MAINTENANCE CHART*.

FUEL FILTER WATER SEPARATOR

The fuel filter water separator contains a filter element which should be replaced at regular intervals (see the *MAINTENANCE CHART*).

CHARGE AIR COOLER PIPEWORK

Inspect all hoses and clamps on the charge cooler pipe work.

Engine damage will occur if the charge cooling system leaks.

HOSES

All components of the engine cooling air intake system should be checked periodically to keep the engine at peak efficiency.

At the recommended intervals, (see the *MAINTENANCE CHART*), inspect all of the intake lines to the air filter, and all flexible hoses used for air lines, oil lines and fuel lines.

Periodically inspect all pipework for cracks, leaks, etc. and replace immediately if damaged.

ELECTRICAL SYSTEM

WARNING: Disconnect the battery cables before performing any maintenance or service.

Check the security of electrical terminals on the switches and relays i.e. nuts or screws loose, which may cause local hot spot oxidation.

Inspect the components and wiring for signs of overheating i.e. discolouration, charring of cables, deformation of parts, acrid smells and blistered paint.

BATTERY

Keep the battery terminals and cable clamps clean and lightly coated with petroleum jelly to prevent corrosion.

The battery restraint should be kept tight enough to prevent the battery from moving.

PRESSURE SYSTEM

Regularly, it is necessary to inspect the external surfaces of the system (from the airend through to the discharge valve(s)) including hoses, tubes, tube fittings and the separator tank, for visible signs of impact damage, excessive corrosion, abrasion, tightness and chafing. Any suspect parts should be replaced before the machine is put back into service.

TIRE PRESSURE

See the *GENERAL DATA SECTION* of this manual.

RUNNING GEAR/WHEELS

Check the wheel nut torque 20 miles (30 kilometres) after refitting the wheels. Refer to the *TORQUE SETTING TABLE* later in this section.

Lifting jacks should only be used under the axle.

The bolts securing the running gear to the chassis should be checked periodically for tightness (refer to the *MAINTENANCE CHART* for frequency) and re-tighten where necessary. Refer to the *TORQUE SETTING TABLE* later in this section.

LUBRICATION

CAUTION: Always check the oil levels before a new machine is put into service.

If, for any reason, the unit has been drained, it must be re-filled with new oil before it is put into operation.

ENGINE LUBRICATING OIL

The engine oil and oil filter element should be changed at the engine manufacturer's recommended intervals. Refer to the Engine operator manual/section.

Refer to the Engine operators' manual/section for engine oil specifications.

COMPRESSOR LUBRICATING OIL

Refer to the *MAINTENANCE CHART* in this section for service intervals.

NOTE: If the machine has been operating under adverse conditions, or has suffered long shutdown periods, then more frequent service intervals will be required.

WARNING: DO NOT, under any circumstances, remove any drain plugs or the oil filler plug from the compressor lubricating and cooling system without first making sure that the machine is stopped and the system has been completely relieved of all air pressure (refer to *STOPPING THE MACHINE* in the *OPERATING INSTRUCTIONS* section of this manual).

Completely drain the receiver/separator system including the piping and oil cooler by removing the drain plug(s) and collecting the used oil in a suitable container.

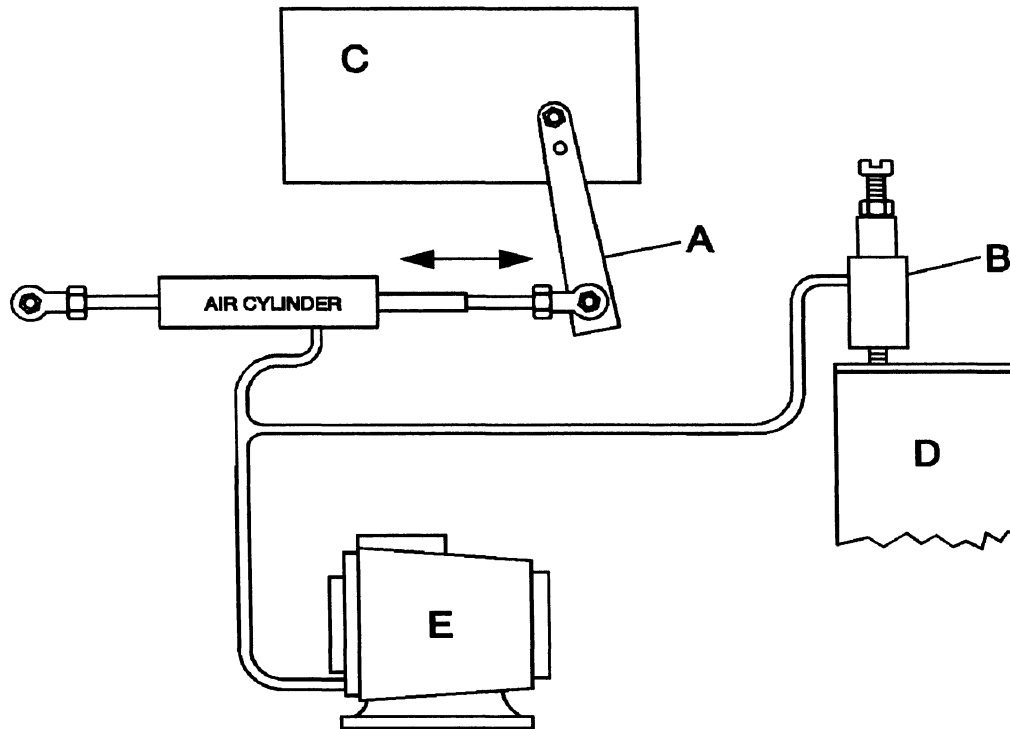
Replace the drain plug(s) ensuring that each one is secure.

NOTE: If the oil is drained immediately after the machine has been running, then most of the sediment will be in suspension and will therefore drain more readily.

CAUTION: Some oil mixtures are incompatible and result in the formation of varnishes, shellacs or lacquers which may be insoluble. Refer to Portable Compressor Fluid Chart.

RUNNING GEAR WHEEL BEARINGS

Wheel bearings should be packed with grease every 12 months. The type of grease used should conform to specification *MIL-G-10924*.



SPEED AND PRESSURE REGULATION ADJUSTMENT

Normally, regulation requires no adjusting, but if correct adjustment is lost, proceed as follows:

Refer to the diagram above.

- A. Throttle Arm
- B. Adjusting Screw
- C. Engine Governor
- D. Separator Tank
- E. Inlet Unloader

Start the machine (Refer to *STARTING INSTRUCTIONS* in the *OPERATING INSTRUCTIONS* section of this manual).

Inspect the throttle arm on the engine governor to see that it is extended in the full speed position when the engine is running at full-load speed and the service valve is fully open. (Refer to the *GENERAL INFORMATION* section of this manual).

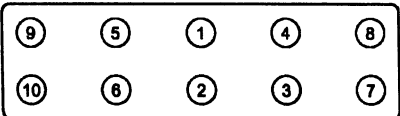
Adjust the service valve on the outside of the machine to maintain normal operating discharge pressure without the throttle arm moving from the full speed position before normal operating discharge pressure is attained. Turn the adjusting screw clockwise to increase the pressure. Optimum adjustment is achieved when the throttle arm just moves from its full speed position and the pressure gauge reads normal operating discharge pressure.

Close the service valve. The engine will slow to idle speed.

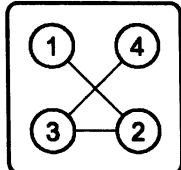
CAUTION: Never allow the idle pressure to exceed maximum allowable pressure on the pressure gauge, otherwise the safety valve will operate.

TORQUE SETTING TABLE

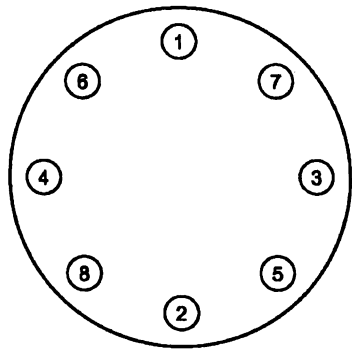
CAPSCREW OR NUT THREAD SIZE AND PITCH	NOMINAL DESIGN TORQUE			
	8AE J249 GRADE 5 (HEAD MARKING)		8AE J249 GRADE 8 (HEAD MARKING)	
	(Nm.)	(FT-LBF)	(Nm.)	(FT-LBF)
1/4 - 20	11	8	16	12
5/16 - 18	24	17	33	25
3/8 - 16	42	31	59	44
7/16 - 14	67	49	95	70
1/2 - 13	102	75	144	106
9/16 - 12	148	109	208	154
5/8 - 11	203	150	287	212
3/4 - 10	361	266	509	376



TYPICAL RECTANGULAR TORQUE PATTERN












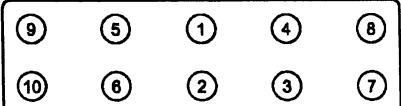
TYPICAL SQUARE TORQUE PATTERN



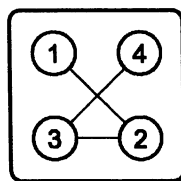
TYPICAL CIRCULAR TORQUE PATTERN

TORQUE SETTING TABLE

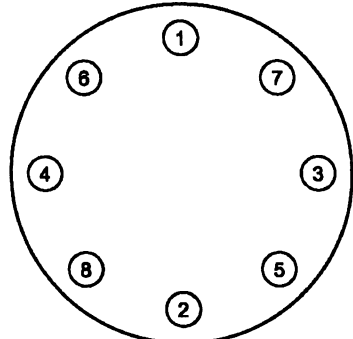
TABLE 2		METRIC FASTENERS					
CAPSCREW OR NUT THREAD SIZE AND PITCH	NOMINAL DESIGN TORQUE						
	PROPERTY GRADE 8.8 (HEAD MARKING)		PROPERTY GRADE 10.9 (HEAD MARKING)		PROPERTY GRADE 12.9 (HEAD MARKING)		
		  	  	  			
	(Nm.)	(FT-LBF)	(Nm.)	(FT-LBF)	(Nm.)	(FT-LBF)	
M6 X 1.0	11	8	15	11	18	13	
M8 X 1.25	26	19	36	27	43	31	
M10 X 1.5	52	38	72	53	84	62	
M12 X 1.75	91	67	126	93	147	109	
M14 X 2	145	107	200	148	234	173	
M16 X 2	226	166	313	231	365	270	
M20 X 2.5	441	325	610	450	713	526	



TYPICAL RECTANGULAR TORQUE PATTERN

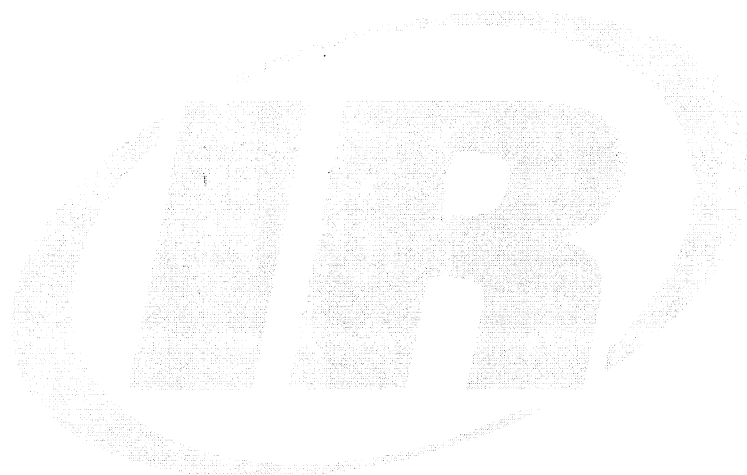


TYPICAL SQUARE TORQUE PATTERN



TYPICAL CIRCULAR TORQUE PATTERN

SECTION 6 - LUBRICATION



LUBRICATION

GENERAL INFORMATION

Lubrication is an essential part of preventive maintenance, affecting to a great extent the useful life of the unit. Different lubricants are needed and some components in the unit require more frequent lubrication than others. Therefore, it is important that the instructions regarding types of lubricants and the frequency of their application be explicitly followed. Periodic lubrication of the moving parts reduces to a minimum the possibility of mechanical failures.

The Preventive Maintenance Schedule shows those items requiring regular service and the interval in which they should be performed. A regular service program should be developed to include all items and fluids. These intervals are based on average operating conditions. In the event of extremely severe (hot, cold, dusty or wet) operating conditions, more frequent lubrication than specified may be necessary. Details concerning lubrication of the running gear are in Maintenance Section.

All filters and filter elements for air and compressor lubricant must be obtained through Ingersoll-Rand to assure the proper size and filtration for the compressor.

COMPRESSOR & HYDRAULIC OIL CHANGE

NOTICE

Some oil types are incompatible when mixed and result in the formation of varnishes, shellacs, or lacquers which may be insoluble. Such deposits can cause serious troubles

including clogging of the filters. Where possible, do NOT mix oils of different types and avoid mixing different brands. A type or brand change is best made at the time of a complete oil drain and refill.

If the unit has been operated for the time/ hours mentioned above, it should be completely drained of oil. If the unit has been operated under adverse conditions, or after long periods in storage, an earlier change period may be necessary as oil deteriorates with time as well as by operating conditions.



High pressure air can cause severe injury or death from hot oil and flying parts. Always relieve pressure before removing caps, plugs, covers or other parts from pressurized air system. Ensure the following conditions are met: 1. Discharge air pressure gauge reads zero (0). 2. No air discharge from an "open" manual blowdown valve.

An oil change is good insurance against the accumulation of dirt, sludge, or oxidized oil products.

Completely drain the reservoir, piping, and cooler. If the oil is drained immediately after the unit has been run for some time, most of the sediment will be in suspension and, therefore, will drain more readily. However, the fluid will be hot and care must be taken to avoid contact with the skin or eyes.

After the unit has been completely drained of all old fluid, close the drain valve. Add oil in the

specified quantity at the filler plug. Tighten the filler plug and run the machine to circulate the oil. Check the oil level when unit is warm and not running. If not near the middle of the sight tube, stop the unit and make corrections. DO NOT OVERFILL.

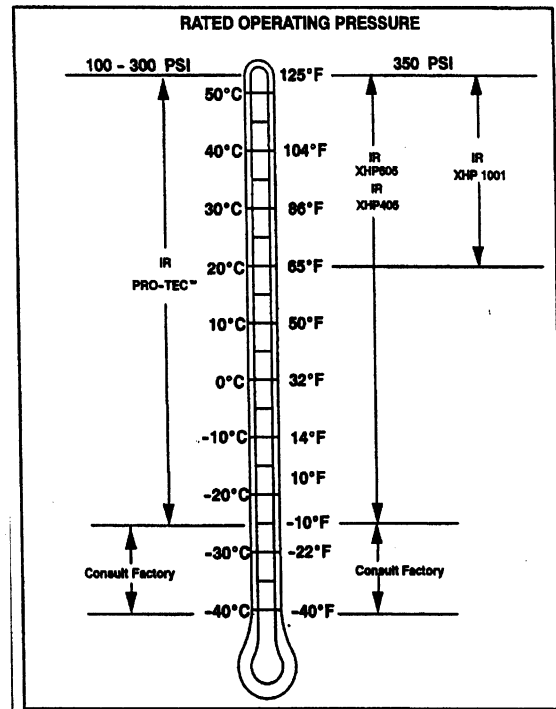
PORTABLE COMPRESSOR FLUID CHART

Refer to these charts for correct compressor fluid required. Note that the selection of fluid is dependent on the design operating pressure of the machine and the ambient temperature expected to be encountered before the next oil change.

Note: Fluids listed as “preferred” are required for extended warranty.

Compressor oil carryover (oil consumption) may be greater with the use of alternative fluids.

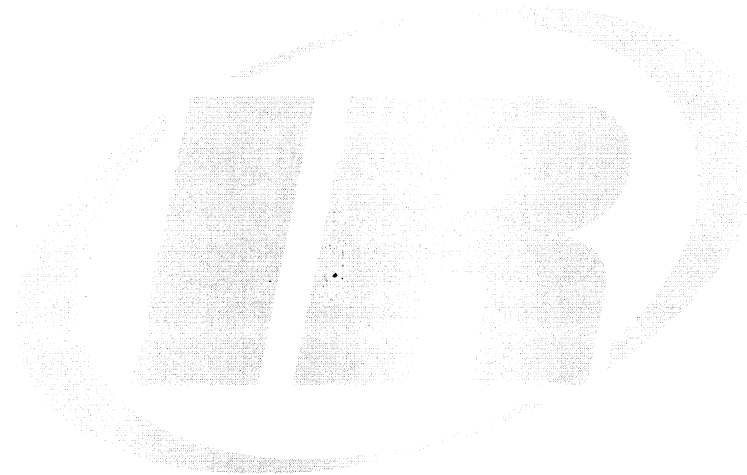
Design Operating Pressure	Ambient Temperature	Specification
100 psi to 300 psi	-10°F to 125°F (-23°C to 52°C)	Preferred: IR Pro-Tec™ Alternate: ISO Viscosity Grade 46 with rust and oxidation inhibitors, designed for air compressor service.
350 psi	(-23°C to 52°C) -10°F to 125°F	Preferred: IR XHP 605 Alternate: IR XHP405 ISO Viscosity Grade 68 Group 3 or 5 with rust and oxidation inhibitors designed for air compressor service.
	65°F to 125°F (-18°C to 52°C)	Preferred: XHP605 IR XHP1001



Preferred Ingersoll-Rand Fluids - Use of these fluids with original I-R filters can extend airend warranty. Refer to operator’s manual warranty section for details or contact your I-R representative.

Ingersoll-Rand Preferred Fluids	1 gal. (3.8 litre)	5 Gal. (19.0 litres)	55 Gal. (208 litres)	220 Gal. (836 litres)
IR Pro-Tec™	36899698	36899706	36899714	36899722
IR XHP605	-	22252076	22252050	22252068
IR XHP1001	-	35612738	35300516	-
XHP405	-	22252126	22252100	22252118

SECTION 7 - FAULT FINDING



FAULT FINDING

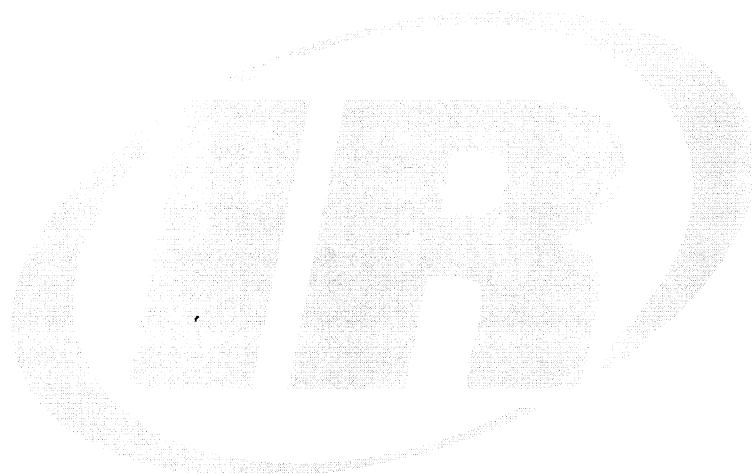
FAULT	CAUSE	REMEDY
No reaction from instrument panel when key turned to (I) position.	<i>Batteries not connected.</i> <i>Fuse at starter motor 'blown'.</i>	Connect batteries. Replace fuse.
Engine fails to start.	<i>Low battery charge.</i> <i>Bad earth connection.</i> <i>Loose connection.</i> <i>Fuel starvation.</i> <i>Relay failed.</i> <i>Faulty stop solenoid</i>	Check the fan belt tension, battery and cable connections. Check the earth cables, clean as required. Locate and make the connection good. Check the fuel level and fuel system components. Replace the fuel filter if necessary. Replace the relay. Check the stop solenoid
Engine stops while in service or is reluctant to start.	<i>Low fuel level.</i> <i>Safety shut-down system in operation.</i>	Fill fuel tank and bleed air from fuel system if necessary. (Refer to MAINTENANCE SECTION). Check the safety shut-down switches.
Engine starts but stalls when the switch returns to position I.	<i>Electrical fault</i> <i>Low engine oil pressure.</i> <i>Faulty relay</i> <i>Faulty key-switch</i>	Test the electrical circuits. Check the oil level and the oil filter(s). Check the relays. Check the key-switch.
Engine starts but will not run or engine shuts down prematurely.	<i>Electrical fault.</i> <i>Low engine oil pressure.</i>	Test the electrical circuits. Check the oil level and oil filter(s).

Engine starts but will not run or engine shuts down prematurely.	<i>Safety shut-down system in operation.</i> <i>Fuel starvation.</i> <i>Switch failure.</i> <i>High compressor oil temperature.</i> <i>Water present in fuel system.</i> <i>Faulty relay.</i>	Check the safety shut-down switches. Check the fuel level and fuel system components. Replace the fuel filter if necessary. Test the switches. Check the compressor oil level and oil cooler. Check the fan drive. Check the water separator and clean if required. Check the relays and replace if necessary.
Engine Overheats.	<i>Low water level</i> <i>Blocked radiator.</i> <i>Reduced cooling air from fan.</i> <i>Faulty thermostat</i>	Check the level and replenish if necessary. Stop the machine and clean the cooling fins with compressed air or steam. Use reduced pressure for cleaning the fins. Check the fan and the drive belts. Check for any obstruction inside the cowl. Check the thermostat and replace if necessary.
Engine speed too high.	<i>Incorrect throttle arm setting.</i>	Check the engine speed setting.
Engine speed too low.	<i>Incorrect throttle arm setting.</i> <i>Blocked fuel filter.</i> <i>Blocked air filter.</i> <i>Incorrectly set regulation system.</i> <i>Premature unloading.</i>	Check the throttle setting. Check and replace if necessary. Check and replace the element if necessary. Reset the regulation system. Refer to SPEED AND PRESSURE REGULATION ADJUSTMENT in the MAINTENANCE section of this manual. Check the regulation system.
Excessive vibration.	<i>Engine speed too low.</i>	See "Engine speed too low"
Leaking oil seal.	<i>Improperly fitted oil seal.</i>	Replace the oil seal.

FAULT FINDING

<p>Air discharge capacity too low.</p>	<p><i>Engine speed too low.</i></p> <p><i>Blocked air cleaner.</i></p> <p><i>High pressure air escaping.</i></p> <p><i>Incorrectly set regulation system.</i></p>	<p>See "Engine speed too low"</p> <p>Check the restriction indicators and replace the element(s) if necessary.</p> <p>Check for leaks.</p> <p>Reset the regulation system. Refer to SPEED AND PRESSURE REGULATION ADJUSTMENT in the MAINTENANCE section of this manual.</p>	<p>Safety valve operates.</p>	<p><i>Operating pressure too high.</i></p> <p><i>Incorrect setting of the regulator.</i></p> <p><i>Faulty regulator.</i></p> <p><i>Inlet valve set incorrectly.</i></p> <p><i>Loose pipe/hose connections.</i></p> <p><i>Faulty safety valve.</i></p>	<p>Refer to SPEED AND PRESSURE REGULATION ADJUSTMENT in the MAINTENANCE section of this manual.</p> <p>Adjust the regulator.</p> <p>Replace the regulator.</p> <p>Refer to SPEED AND PRESSURE REGULATION ADJUSTMENT in the MAINTENANCE section of this manual.</p> <p>Check all pipe/hose connections.</p> <p>Check the relieving pressure. Replace the safety valve if faulty.</p> <p>DO NOT ATTEMPT A REPAIR.</p>
<p>Compressor overheats.</p>	<p><i>Low oil level.</i></p> <p><i>Dirty or blocked oil cooler.</i></p> <p><i>Incorrect grade of oil.</i></p> <p><i>Defective by-pass valve.</i></p> <p><i>Recirculation of cooling air.</i></p> <p><i>Reduced cooling air from fan.</i></p>	<p>Top up the oil level and check for leaks.</p> <p>Clean the oil cooler fins.</p> <p>Use Ingersoll-Rand recommended oil.</p> <p>Check the operation of the element and replace if necessary.</p> <p>Move the machine to avoid recirculation.</p> <p>Check the fan and the drive belts. Check for any obstruction inside the fan cowl.</p>	<p>Oil is forced back into the air filter.</p>	<p><i>Incorrect stopping procedure used</i></p> <p><i>Faulty inlet valve.</i></p>	<p>Always employ the correct stopping procedure. Close the discharge valve and allow the machine to run on idle before stopping.</p> <p>Check for free operation of the inlet valve(s).</p>
<p>Excessive oil present in the discharge air.</p>	<p><i>Blocked scavenge line.</i></p> <p><i>Perforated separator element.</i></p> <p><i>Pressure in the system is too low.</i></p>	<p>Check the scavenge line, drop tube and orifice. Clean and replace.</p> <p>Replace the separator element.</p> <p>Check the minimum pressure valve.</p>	<p>Machine goes to full pressure when started.</p>	<p><i>Faulty load valve.</i></p>	<p>Replace the valve.</p>
			<p>Machine fails to load when the load switch is pressed.</p>	<p><i>Faulty load valve.</i></p> <p><i>Faulty switch.</i></p> <p><i>Loose pipe/hose connections.</i></p>	<p>Replace the valve.</p> <p>Test switch</p> <p>Check all pipe/hose connections.</p>

SECTION 8- PARTS ORDERING



PARTS ORDERING

GENERAL

This publication, which contains an illustrated parts breakdown, has been prepared as an aid in locating those parts which may be required in the maintenance of the unit. All of the compressor parts, listed in the parts breakdown, are manufactured with the same precision as the original equipment. For the greatest protection always insist on genuine Ingersoll-Rand Company parts for your compressor.

NOTICE

Ingersoll-Rand Company can bear no responsibility for injury or damages resulting directly from the use of non-approved repair parts.

Ingersoll-Rand Company service facilities and parts are available worldwide. There are Ingersoll-Rand Company Construction Equipment Group Sales Offices and authorized distributors located in the principal cities of the United States. In Canada our customers are serviced by the Canadian Ingersoll-Rand Company, Limited. There are also Ingersoll-Rand International autonomous companies and authorized distributors located in the principal cities throughout the free world.

Special order parts may not be included in this manual. Contact the Mocksville Parts Department with the unit serial number for assistance with these special parts.

DESCRIPTION

The illustrated parts breakdown illustrates and lists the various assemblies, subassemblies and detailed parts which make up this particular machine. This covers the standard models and

the more popular options that are available.

In referring to the rear, the front or to either side of the unit, always consider the **drawbar end** of the unit as the **front**. Standing at the rear of the unit facing the drawbar (front) will determine the right and left sides.

FASTENERS

Both SAE/inch, ISO/metric hardware have been used in the design and assembly of these units. In the disassembly and reassembly of parts, extreme care must be taken to avoid damaging threads by the use of wrong fasteners.

MARKINGS AND DECALS

NOTICE

Do not paint over safety warnings or instructional decals. If safety warning decals become illegible, immediately order replacements from the factory.

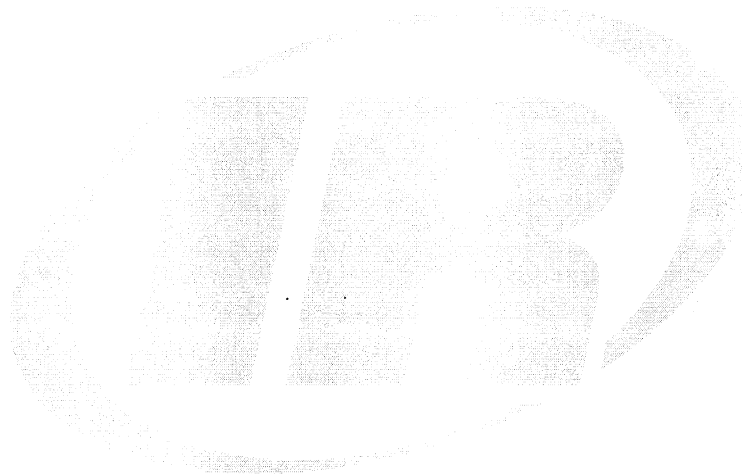
Part numbers for original individual decals and their mounting locations are shown within Parts List Section. These are available as long as a particular model is in production.

Afterwards, service sets of exterior decals and current production safety warning decals are available. Contact the Product Support Group at Mocksville for your particular needs and availability.

HOW TO ORDER

- A. Always specify the model and serial number of the unit.
- B. Specify the part number and description.

SECTION 9- PARTS LIST



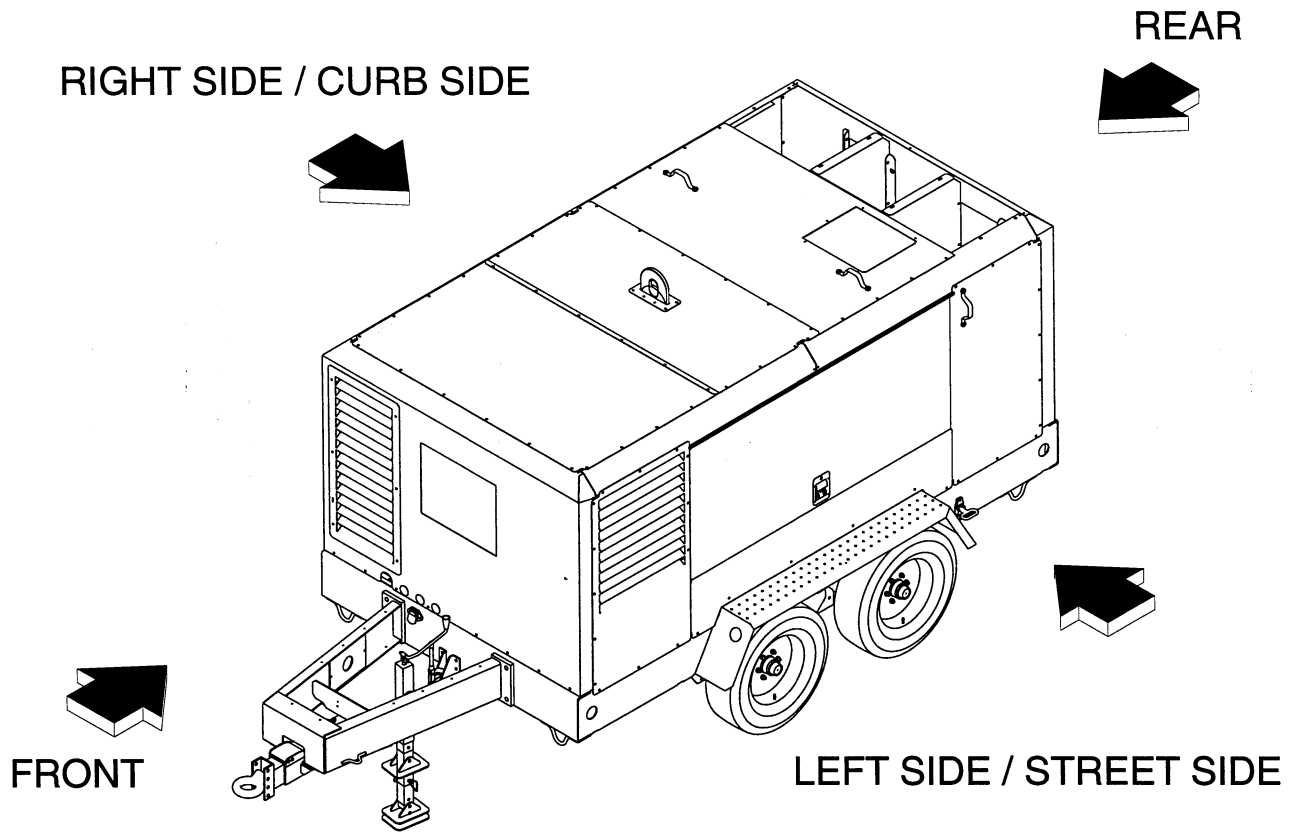
INDEX

GENERAL ARRANGEMENT
HIGH SPEED RUNNING GEAR FRAME ASSEMBLY
HIGH SPEED RUNNING GEAR BELLY PANS
DRAWBAR JACK ASSEMBLY
BRAKE ACTUATOR ASSEMBLY
HYDRAULIC BRAKE PIPING
PARKING BRAKE ASSEMBLY
HIGH SPEED RUNNING GEAR
ELECTRIC AND HYDRAULIC BRAKES (INTERNAL PARTS)
RUNNING LIGHT ASSEMBLY
STEERABLE FRAME AND BELLY PANS
STEERABLE RUNNING GEAR
ENGINE COMPLETE
REGULATION SYSTEM
ETHER COLD START KIT
EXHAUST COMPLETE
AIR END COMPLETE
AIR END ASSEMBLY
UNLOADER ASSEMBLY
RADIATOR AND COOLER MOUNTING
RADIATOR AND COOLERS PIPING
FUEL TANK ASSEMBLY
FUEL TANK PIPING
AIR INTAKE COMPLETE
SEPARATOR TANK ASSEMBLY
SEPARATOR TANK PIPING
MINIMUM PRESSURE CHECK VALVE ASSEMBLY
SERVICE PIPING (ONE 2" NPT VALVE)
AIR PIPING DIAGRAM
OIL PIPING DIAGRAM
COMPRESSOR OIL FILTER
INSTRUMENT / CONTROL PANEL ASSEMBLY
INSTRUMENT / CONTROL PANEL
INSTRUMENT PANEL DOOR ASSEMBLY
BATTERY AND MOUNTING
ENCLOSURE (EXTERNAL)
ENCLOSURE BAFFLES
ACOUSTIC FOAM
DECAL LOCATION
WIRING DIAGRAM
ELECTRICAL PARTS LIST

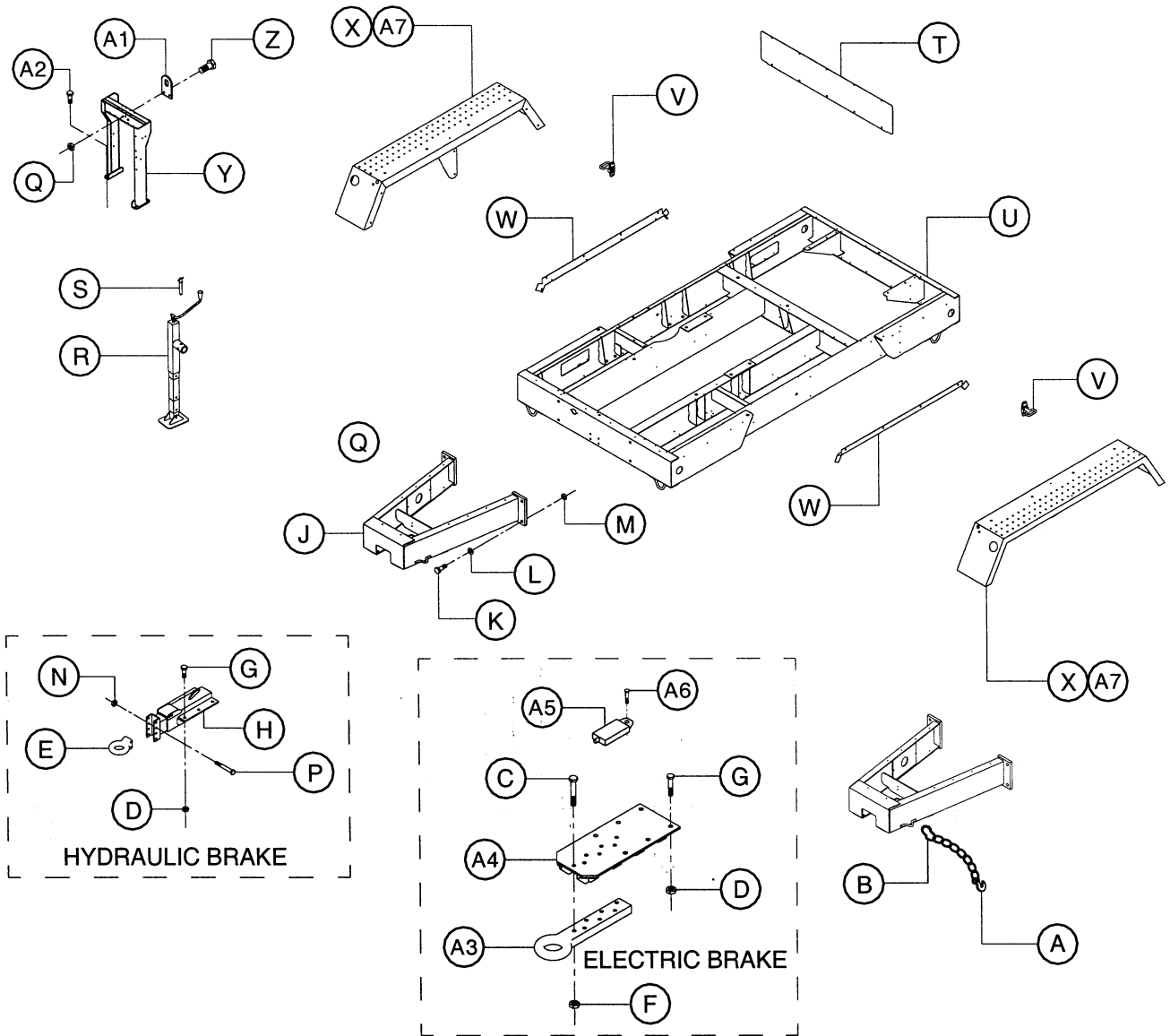
OPTIONS

STARTING AID (AC KIT)
SERVICE AND MANIFOLD PIPING
IQ PIPING AND COOLER
AFTER COOLER PIPING
CENTRAL DRAINS
SECURABLE LIFT EYE

GENERAL ARRANGEMENT

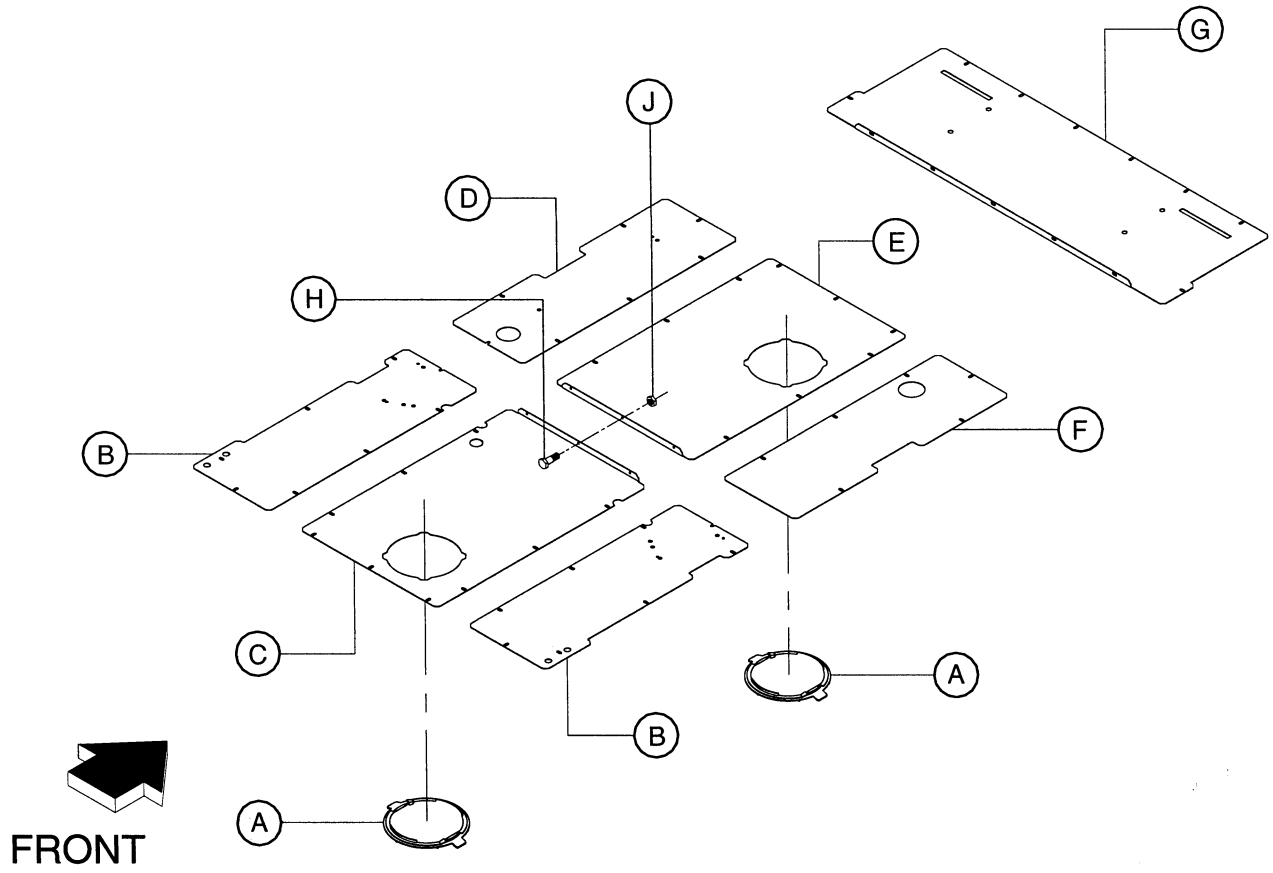


HSRG FRAME ASSEMBLY



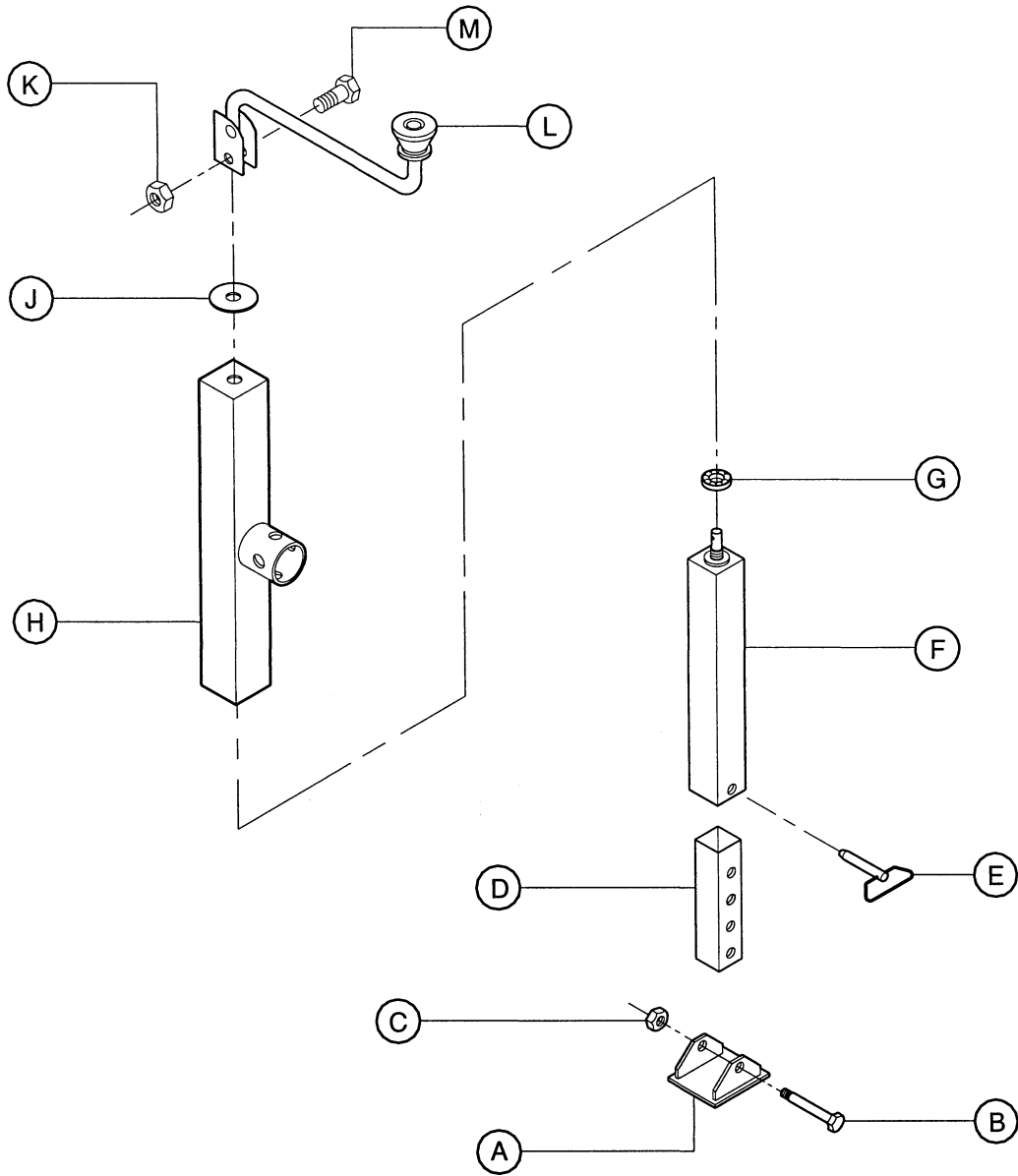
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35604636	2	CHAIN ASSEMBLY	S	35609544	1	PIN
B	35369800	2	COUPLING , CHAIN	T	22231732	1	BELLYPAN , DISCHARGE
C	95934170	7	SCREW	U	22157556	1	FRAME , HSRG
D	35356526	6	NUT	V	35369313	2	STEP
E	35605187	1	EYE , PINTLE	W	22199582	2	BRACKET , FENDER
F	35374453	7	NUT	X	22193718	2	FENDER
G	35272558	6	SCREW	Y	22159859	1	BAIL , LIFTING
H	36734879	1	ACTUATOR , BRAKE	Z	36763670	2	SCREW
J	22247191	1	DRAWBAR	A1	22182307	1	PLATE , LIFTING
K	35375963	4	SCREW	A2	96700901	4	SCREW
L	95935011	4	WASHER	A3	35327840	1	EYE , PINTLE
M	35297340	4	NUT	A4	36742880	1	BRACKET , PINTLE EYE
N	96701750	4	NUT	A5	35315944	1	SWITCH , BREAK-AWAY
P	35376094	2	SCREW	A6	36797652	1	SCREW
Q	96702741	2	NUT	A7	22193734	2	FENDER , GALVANEAL
R	36870111	1	JACK , DRAWBAR				

HSRG BELLY PANS



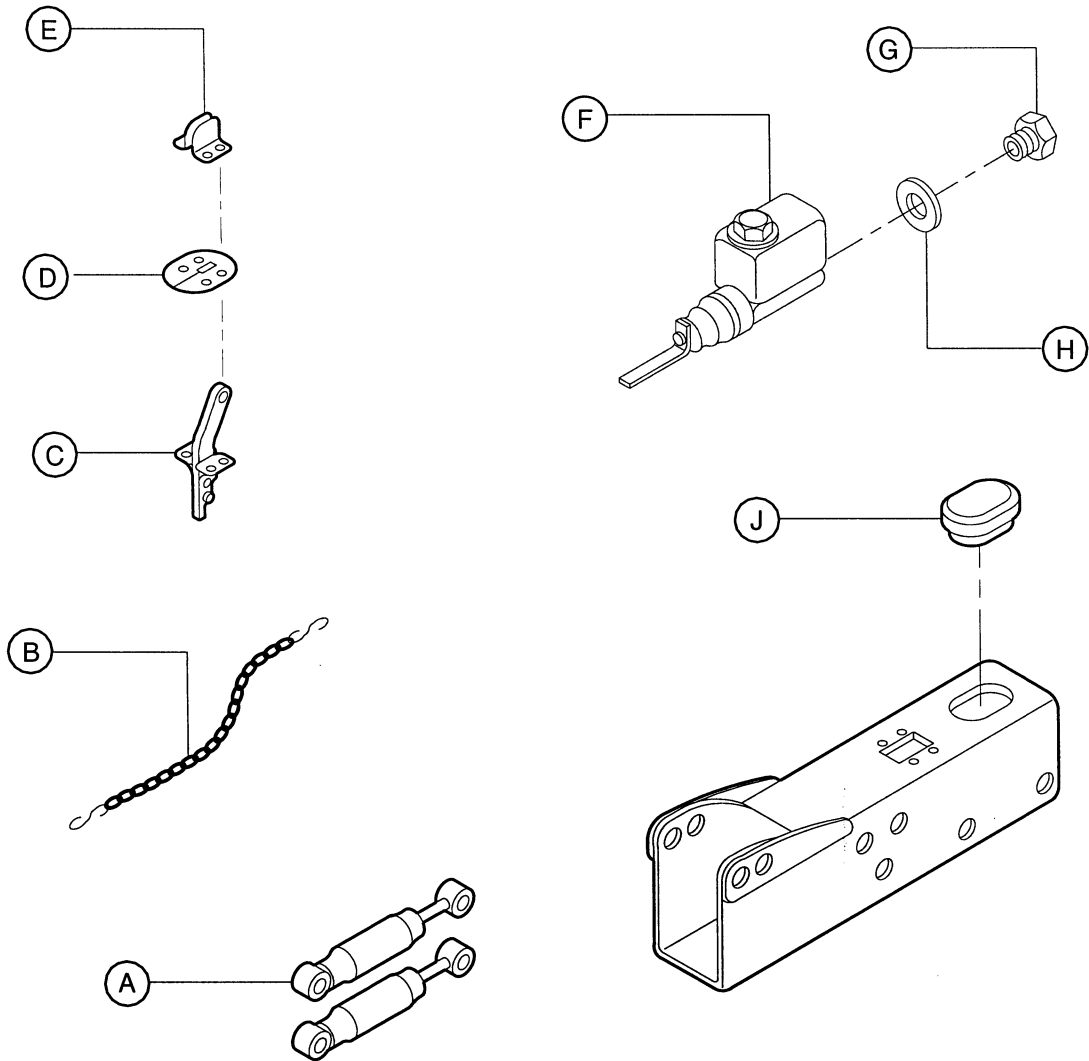
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	36880623	2	COVER , ACCESS				
B	22231674	2	BELLYPAN , FRONT OUTSIDE				
C	22231641	1	BELLYPAN , AIR END				
D	22231682	1	BELLYPAN , RIGHT MIDDLE				
E	22231633	1	BELLYPAN , ENGINE				
F	22231690	1	BELLYPAN , LEFT MIDDLE				
G	22231724	1	BELLYPAN , REAR DISCHARGE				
	35279025	—	SCREW				
	36895746	—	NUTSERT				
H	36889608	3	SCREW				
J	36881886	3	NUT				

DRAWBAR JACK ASSEMBLY



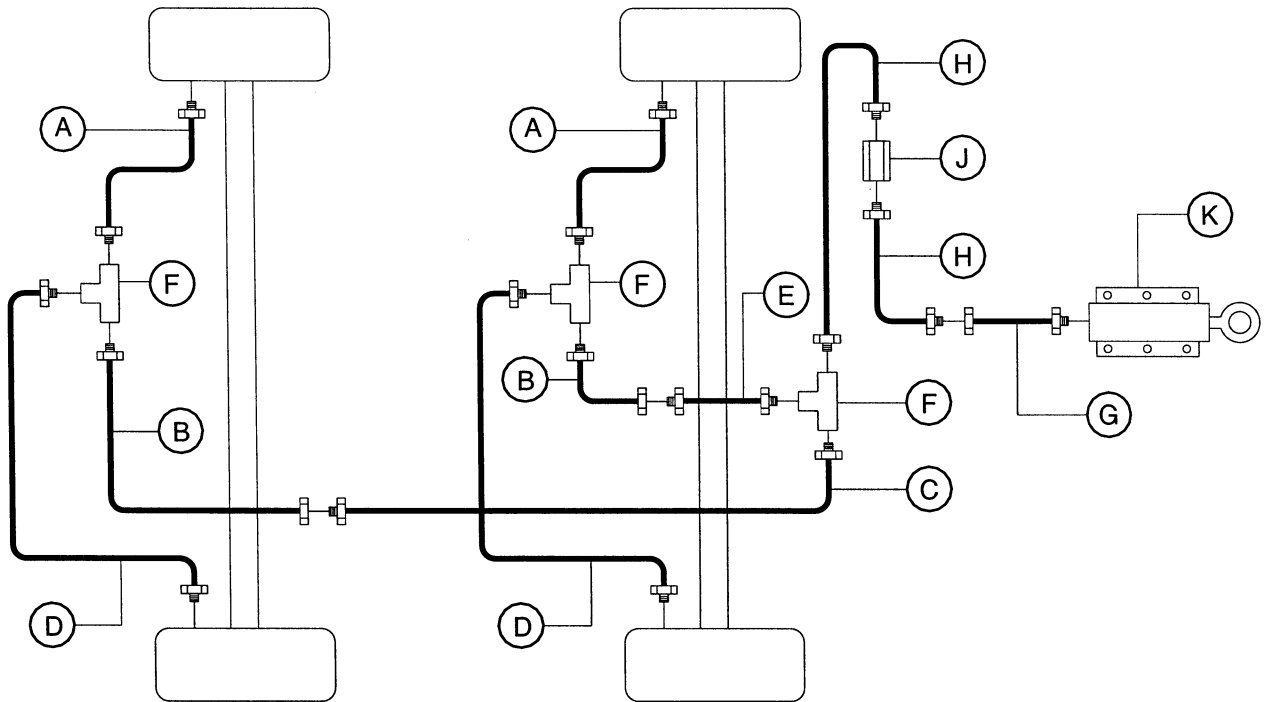
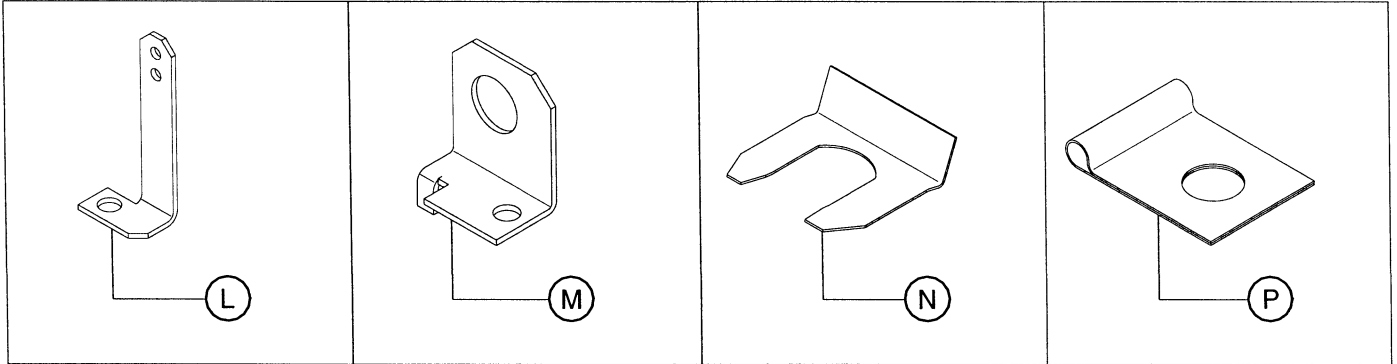
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	36870145	1	BASE , JACK				
B	95954087	1	BOLT				
C	35336700	1	NUT , LOCK				
D	36870087	1	DROP LEG AND SLEEVE				
E	36870095	1	PIN , PULL				
	36870103	1	CLIP				
F	36870053	1	TUBE , INNER				
G	36870079	1	BEARING , THRUST				
H	36870129	1	TUBE , OUTER				
J	95935011	1	WASHER				
K	95923314	1	NUT , LOCK				
L	36870061	1	CRANK ASSEMBLY				
M	95935235	1	BOLT				
—	36870111	1	DRAWBAR JACK ASSEMBLY				

BRAKE ACTUATOR ASSEMBLY



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35373026	2	DAMPER				
B	35373083	2	S-HOOK				
	35373091	1	CHAIN				
C	35373042	1	LEVER ASSEMBLY				
D	35373059	1	SEAL , WEATHER				
E	35373067	1	LOCK , RIGHT				
	35373075	1	LOCK , LEFT				
F	35373117	1	CYLINDER , MASTER				
	35376433	1	KIT , CYLINDER REPAIR				
G	35373109	1	CONNECTOR				
H	35373125	1	GASKET				
J	35373034	1	COVER				

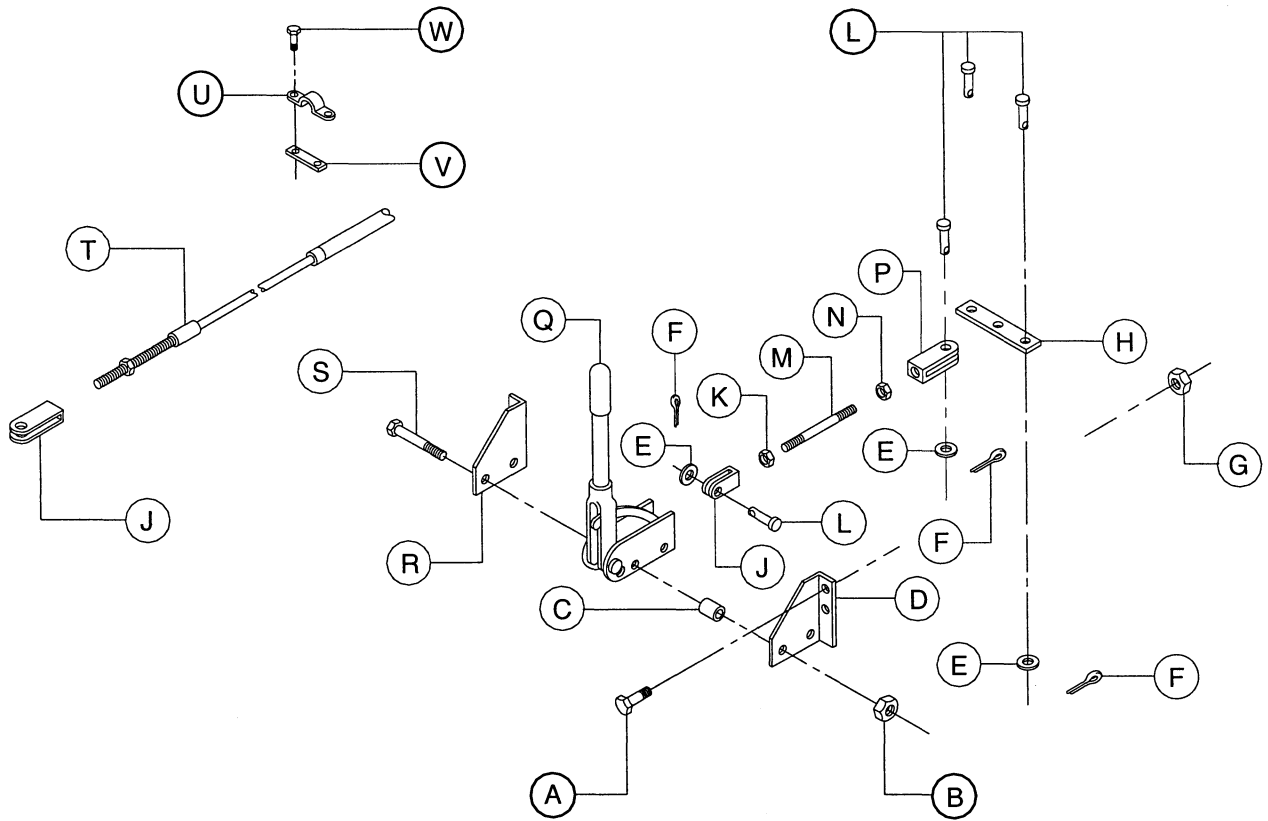
HYDRAULIC BRAKE PIPING



(THIS VIEW IS LOOKING DOWN FROM TOP OF UNIT)

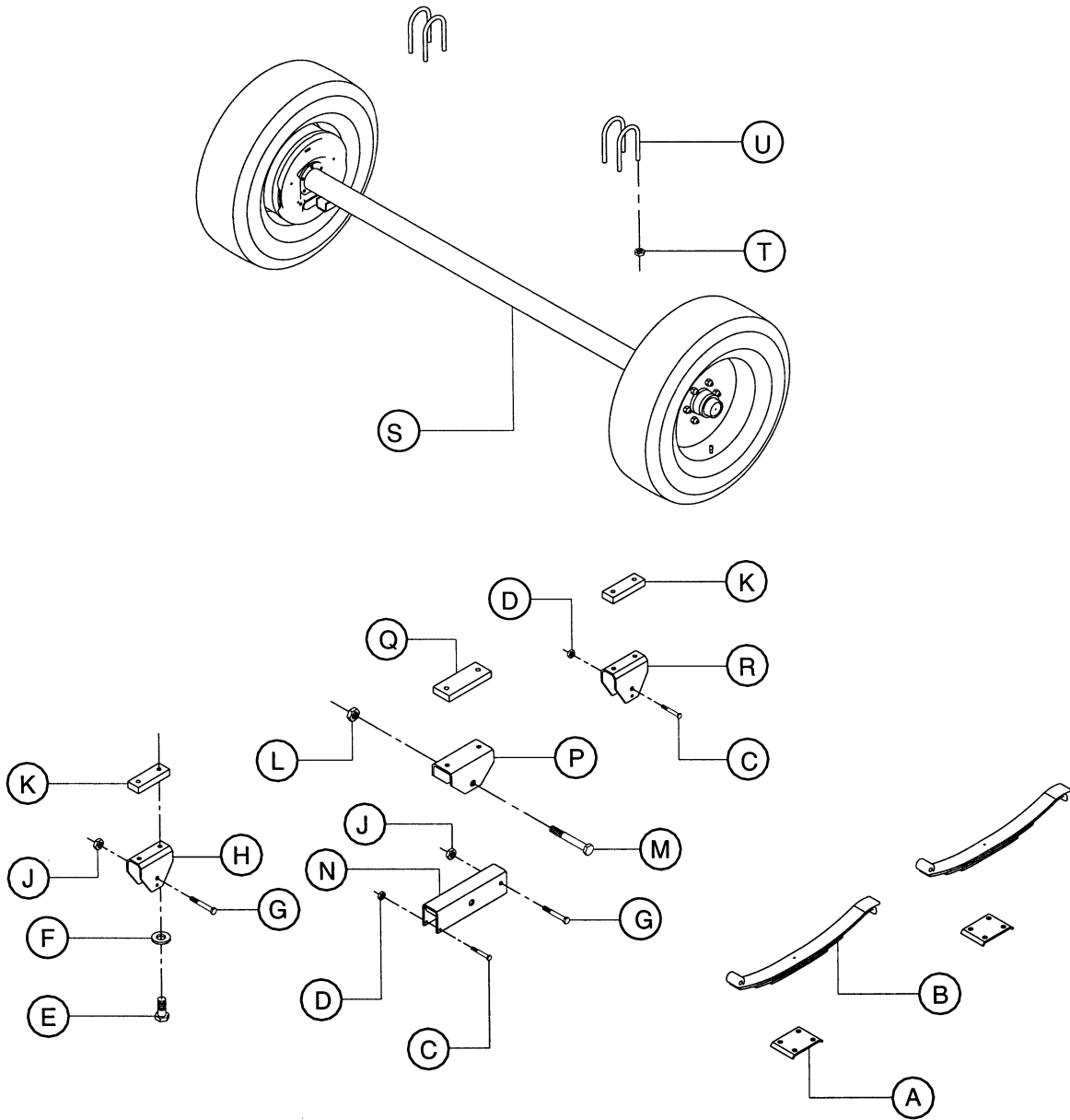
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	36867281	2	TUBE ASSEMBLY	M	35356310	3	BRACKET , HOSE
B	35356377	2	HOSE ASSEMBLY	N	35356302	3	CLIP , HOSE
C	36894699	1	TUBE ASSEMBLY	P	37001252	3	CLAMP , TUBE
D	36867489	2	TUBE ASSEMBLY				
E	36867273	1	TUBE ASSEMBLY				
F	35356328	3	TEE				
G	35356369	1	HOSE ASSEMBLY				
H	35356401	2	TUBE ASSEMBLY				
J	35356336	1	UNION				
K	36734879	1	HYDRAULIC BRAKE ACTUATOR				
L	22262323	2	BRACKET , TEE				
	95935102	2	NUT (1/2")				
	36898096	2	SCREW (6MM)				
	36898104	2	NUT (6MM)				

PARKING BRAKE ASSEMBLY (HSRG)



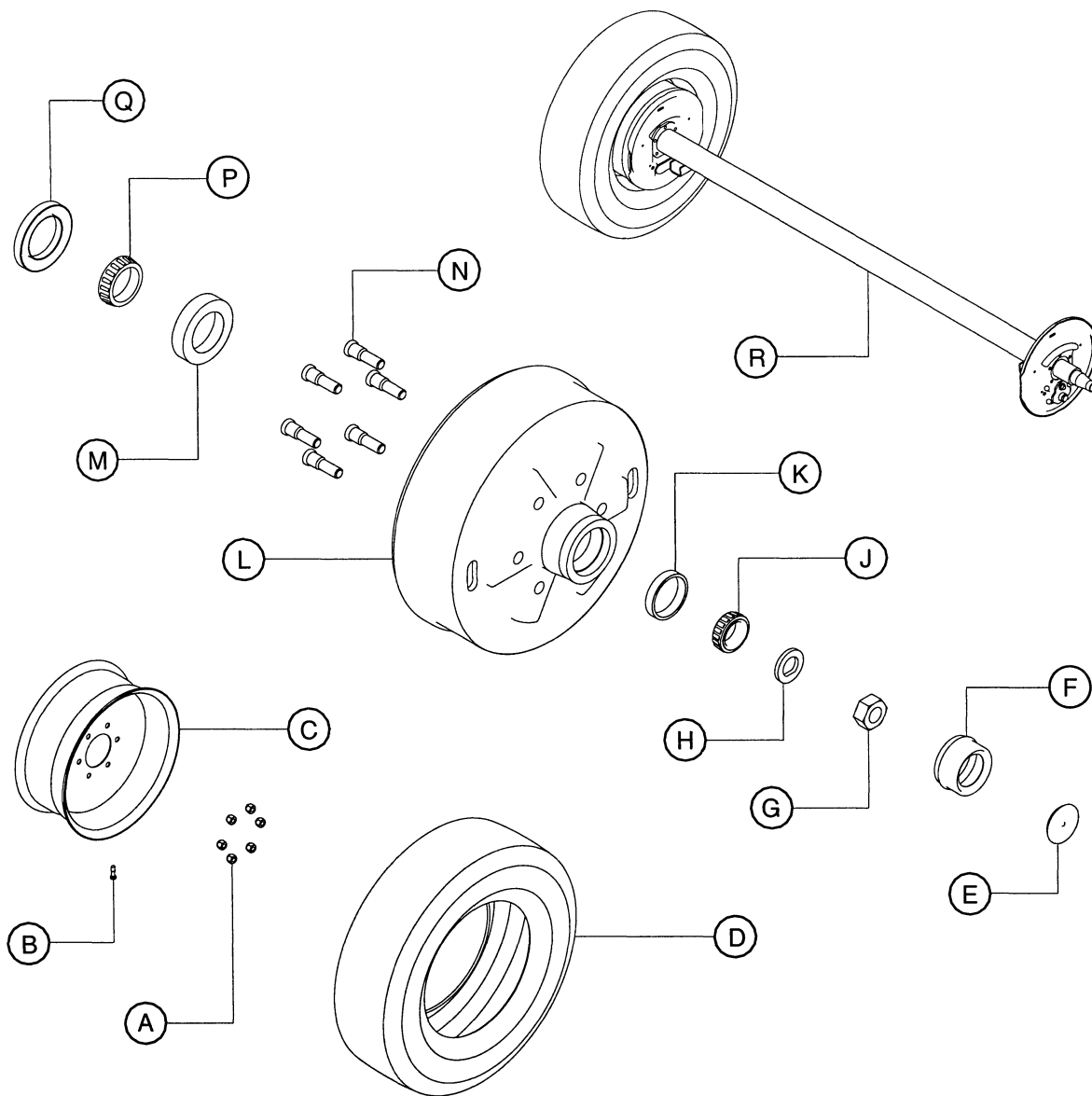
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	96702311	4	SCREW				
B	36879195	2	NUT				
C	35603224	2	SPACER				
D	36847440	1	BRACKET , LEFT				
E	95934998	4	WASHER				
F	95928867	4	PIN , COTTER				
G	96701743	4	NUT				
H	35602846	1	BRACKET				
J	FURNISHED WITH CABLE						
K	95935086	1	NUT				
L	35357151	4	PIN				
M	35603182	1	ROD , LINK				
N	35118728	1	NUT				
P	35603208	1	CLEVIS				
Q	35857382	1	LEVER				
R	36847432	1	BRACKET , RIGHT				
S	35376946	2	SCREW				
T	36880698	2	CABLE (ELECTRIC BRAKES)				
	35857408	2	CABLE (HYDRAULIC BRAKES)				
U	35602895	2	CLAMP				
V	25602903	2	SPACER				
W	35279025	4	SCREW				

HIGH SPEED RUNNING GEAR



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35315241	4	PLATE , TIE	M	36784874	2	SCREW
B	35315126	4	SPRING	N	35356930	2	EQUALIZER
C	35315365	4	SCREW	P	36895225	2	HANGER , CENTER
D	35315373	4	NUT	Q	22278196	2	SPACER , CENTER
E	96739958	12	SCREW	R	35326966	2	HANGER , REAR
F	95935003	12	WASHER	S	22193015	2	AXLE WITH ELEC. BRAKE
G	35315340	4	SCREW		22161343	1	AXLE HYDRAULIC FRONT
H	35326958	2	HANGER , FRONT		22161350	1	AXLE HYDRAULIC REAR
J	35315357	4	NUT	T	35315258	16	NUT
K	22278212	4	SPACER	U	35316959	8	U-BOLT
L	36784882	2	NUT	-	36875508	1	ELEC. BRAKE HARNESS

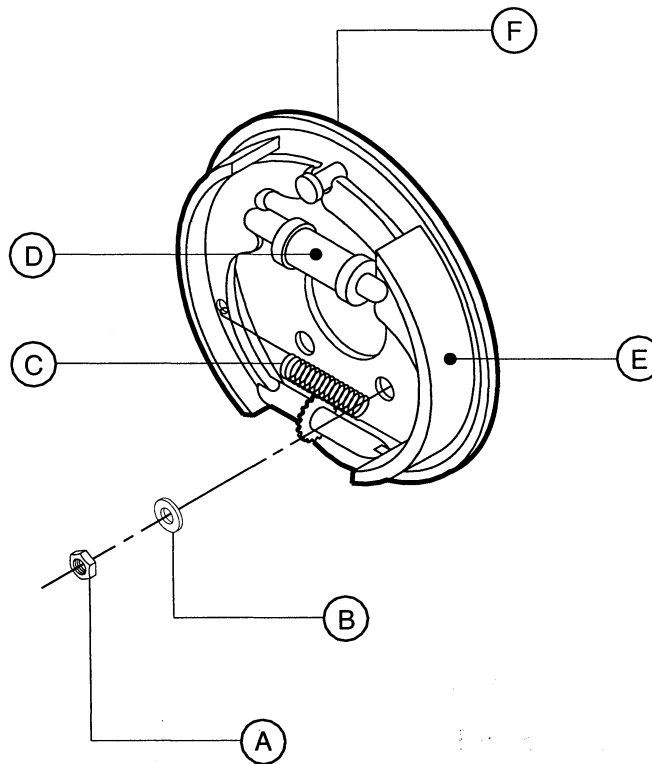
HIGH SPEED RUNNING GEAR



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35315274	24	NUT , LUG	L	35390459	4	DRUM , BRAKE
B	35282565	4	STEM , VALVE	M	35316884	4	RACE , BEARING
C	35318757	4	WHEEL	N	35361898	24	STUD , HUB
D	22253041	4	TIRE	P	35316876	4	BEARING , INNER WHEEL
E	35379387	4	COVER , RUBBER	Q	35316868	4	SEAL , HUB
F	35379395	4	COVER , BEARING	R	22346126	2	BEAM , AXLE
G	35315217	4	NUT				
H	35315209	4	WASHER				
J	35318849	4	BEARING , OUTER WHEEL				
K	35318831	4	RACE , BEARING				

HYDRAULIC BRAKES (WITH PARK BRAKE - FRONT AXLE)

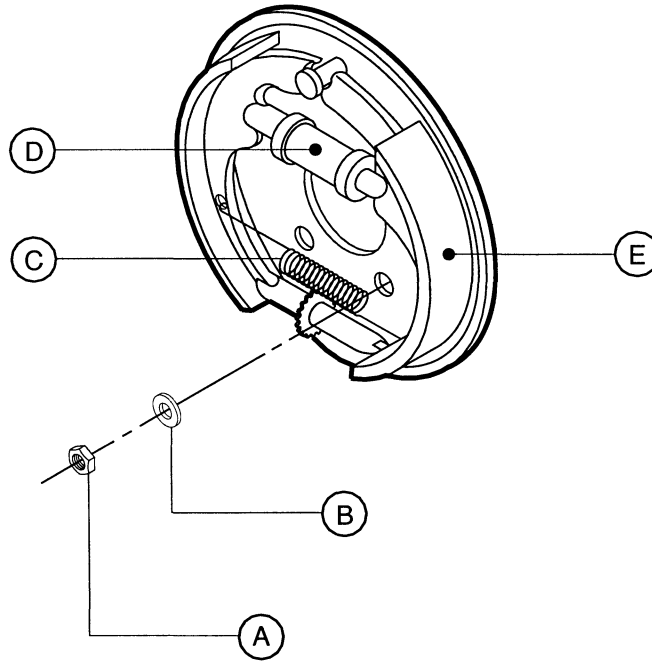
USED ON AXLE NO. 22161343



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35356872	10	NUT				
B	35356864	10	WASHER				
C	36895795	2	KIT , BRAKE SPRING				
D	36867851	1	KIT , LEFT BRAKE CYLINDER				
	36867885	1	KIT , RIGHT BRAKE CYLINDER				
E	36895779	1	KIT , LEFT SHOE AND LINING				
	36895787	1	KIT , RIGHT SHOE AND LINING				
F	35393834	1	PLATE , LEFT BACKING , ASSEMBLY				
	35393842	1	PLATE , RIGHT BACKING , ASSEMBLY				
-	36895241	1	COMPLETE LEFT BRAKE ASSEMBLY				
-	36895258	1	COMPLETE RIGHT BRAKE ASSEMBLY				

HYDRAULIC BRAKES (NO PARK BRAKE - REAR AXLE)

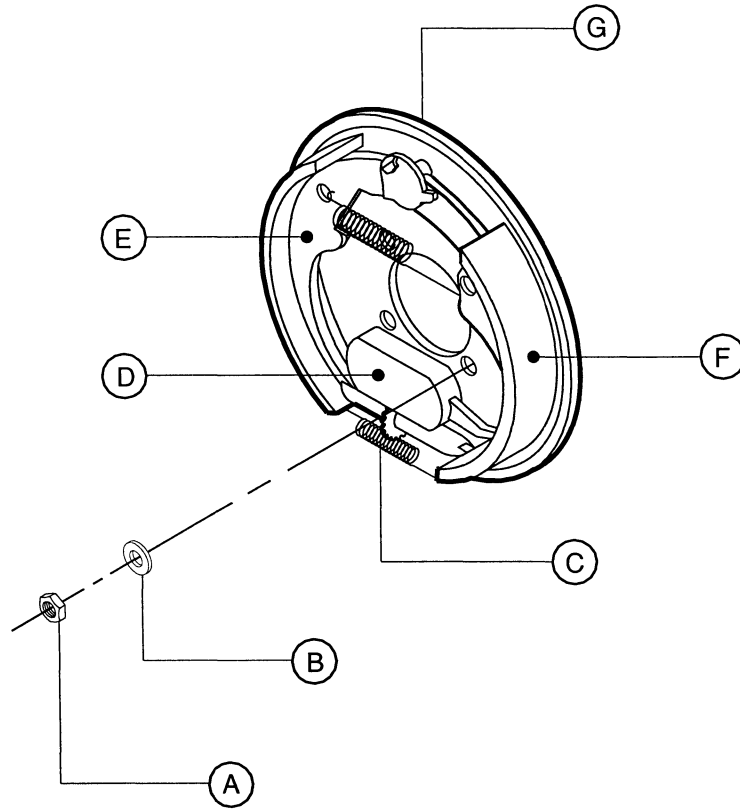
USED ON AXLE NO. 22161350



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35356872	10	NUT				
B	35356864	10	WASHER				
C	36895795	2	KIT , BRAKE SPRING				
D	36867851	1	KIT , LEFT BRAKE CYLINDER				
	36867885	1	KIT , RIGHT BRAKE CYLINDER				
E	36895779	1	KIT , LEFT SHOE AND LINING				
	36895787	1	KIT , RIGHT SHOE AND LINING				
-	35388628	1	COMPLETE LEFT BRAKE ASSEMBLY				
-	35388636	1	COMPLETE RIGHT BRAKE ASSEMBLY				

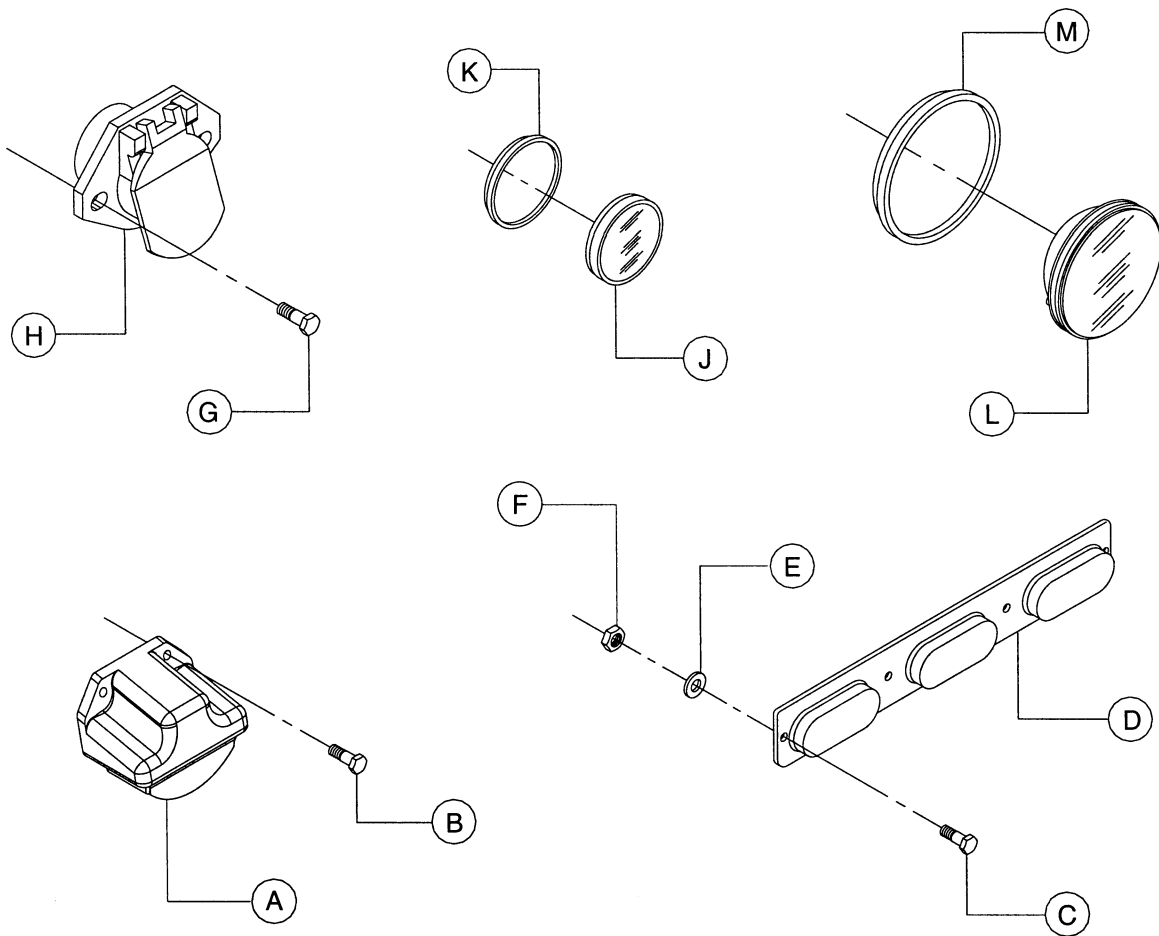
ELECTRIC BRAKES (WITH PARK BRAKE - BOTH AXLES)

USED ON AXLE NO. 22193015



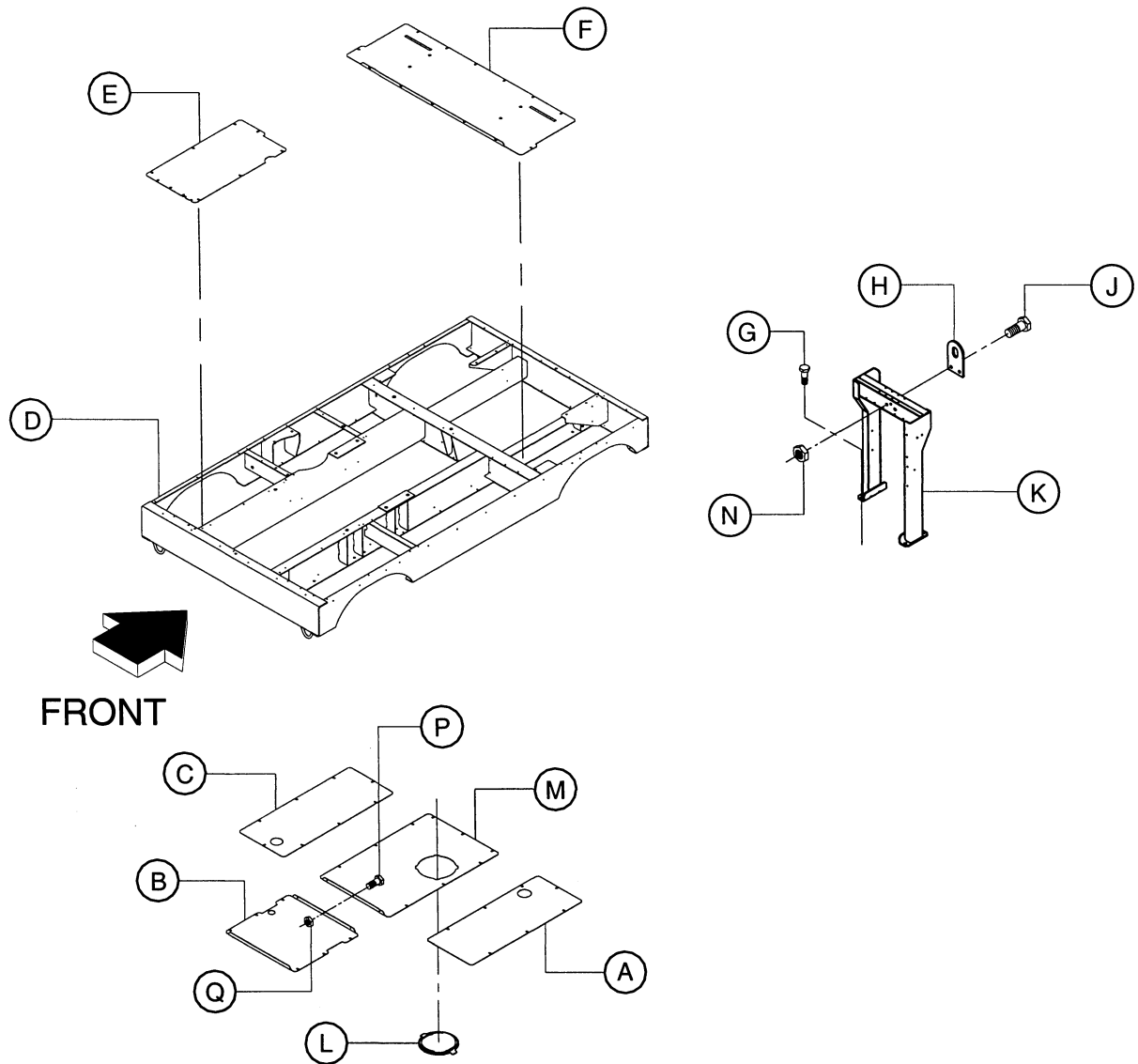
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35356872	10	NUT				
B	35356864	10	WASHER				
C	35393727	2	KIT , ADJUSTING SCREW AND SPRING				
D	36895811	2	KIT , MAGNET				
E	36895829	1	KIT , LEFT ACTUATING LEVER				
	36895837	1	KIT , RIGHT ACTUATING LEVER				
F	36895803	2	KIT , SHOE AND LINING				
G	35393859	1	PLATE , LEFT BACKING , ASSEMBLY				
	35393867	1	PLATE , RIGHT BACKING , ASSEMBLY				
-	35390814	1	COMPLETE LEFT BRAKE ASSEMBLY				
-	35390822	1	COMPLETE RIGHT BRAKE ASSEMBLY				

RUNNING LIGHTS ASSEMBLY



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	36881910	1	LIGHT , LICENSE PLATE				
B	35300771	2	SCREW				
C	95922126	2	SCREW				
D	36922144	1	3 - LIGHT ASSEMBLY				
E	95938692	2	WASHER				
F	35265388	2	NUT				
G	35279025	2	SCREW				
H	36894129	1	CONNECTOR , 7 - WAY				
J	35367044	4	RED LIGHT ASSEMBLY				
	35367051	4	YELLOW LIGHT ASSEMBLY				
K	36893634	8	GROMMET				
L	36788081	4	STOP , TURN , TAIL LIGHT ASSEMBLY				
M	36787968	4	GROMMET				
-	22312169	1	LIGHT HARNESS				

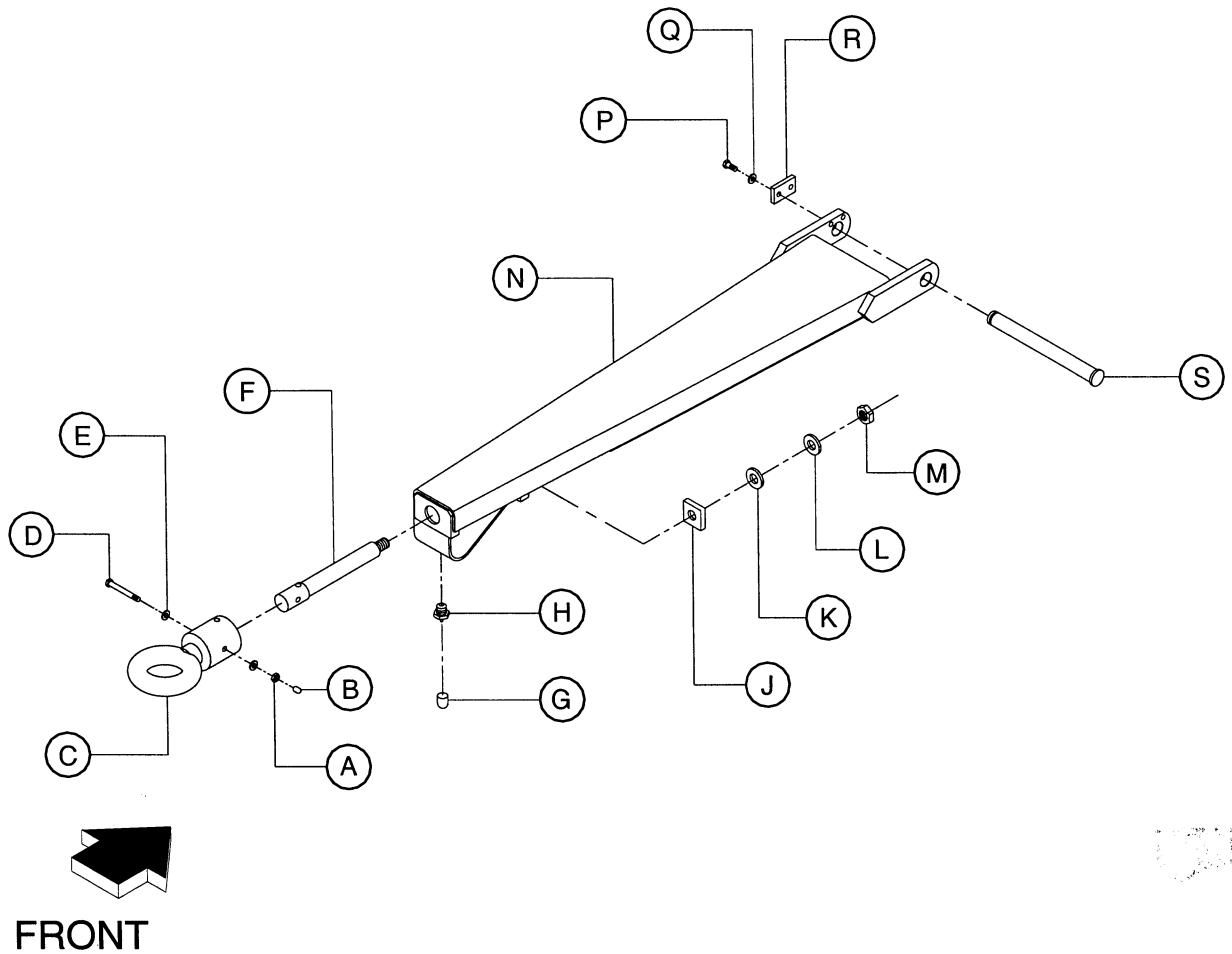
STEERABLE FRAME AND BELLYPANS



FRONT

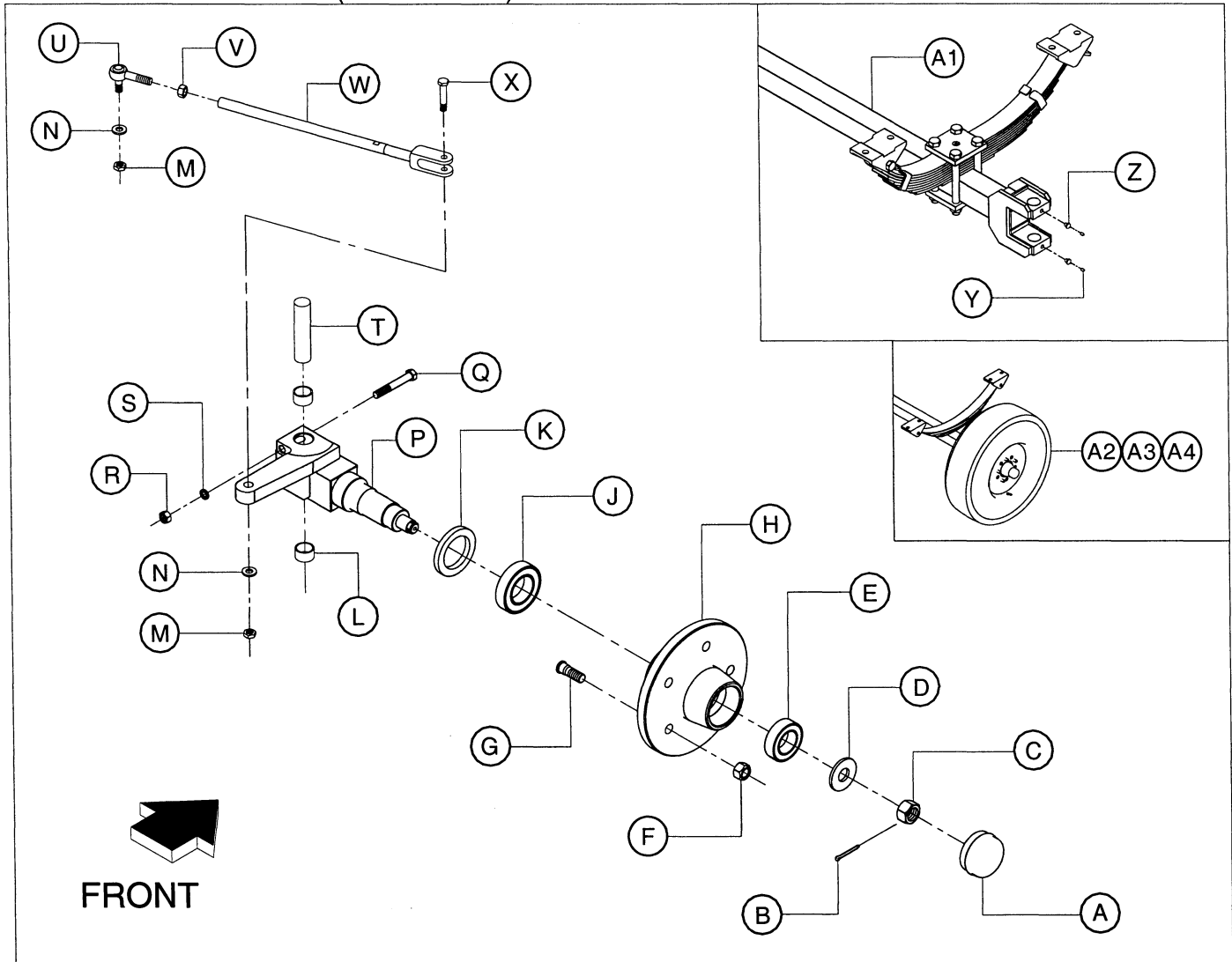
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22231716	1	BELLYPAN , MIDDLE FUEL TANK				
B	22231658	1	BELLYPAN , AIR END				
C	22231708	1	BELLYPAN , MIDDLE				
D	22197370	1	FRAME , WAGON WHEEL				
E	22231666	1	BELLYPAN , FRONT				
F	22231724	1	BELLYPAN , DISCHARGE				
G	96700901	4	SCREW				
H	22182307	1	PLATE , LIFTING BAIL				
J	36763670	2	SCREW				
K	22159859	1	BAIL , LIFTING				
L	36880623	1	COVER , ACCESS				
M	22231633	1	BELLYPAN , ENGINE				
	35279025	—	SCREW				
	36895746	—	NUTSERT				
N	96702741	2	NUT				
P	36889608	3	SCREW				
Q	36881886	3	NUT				

STEERABLE RUNNING GEAR



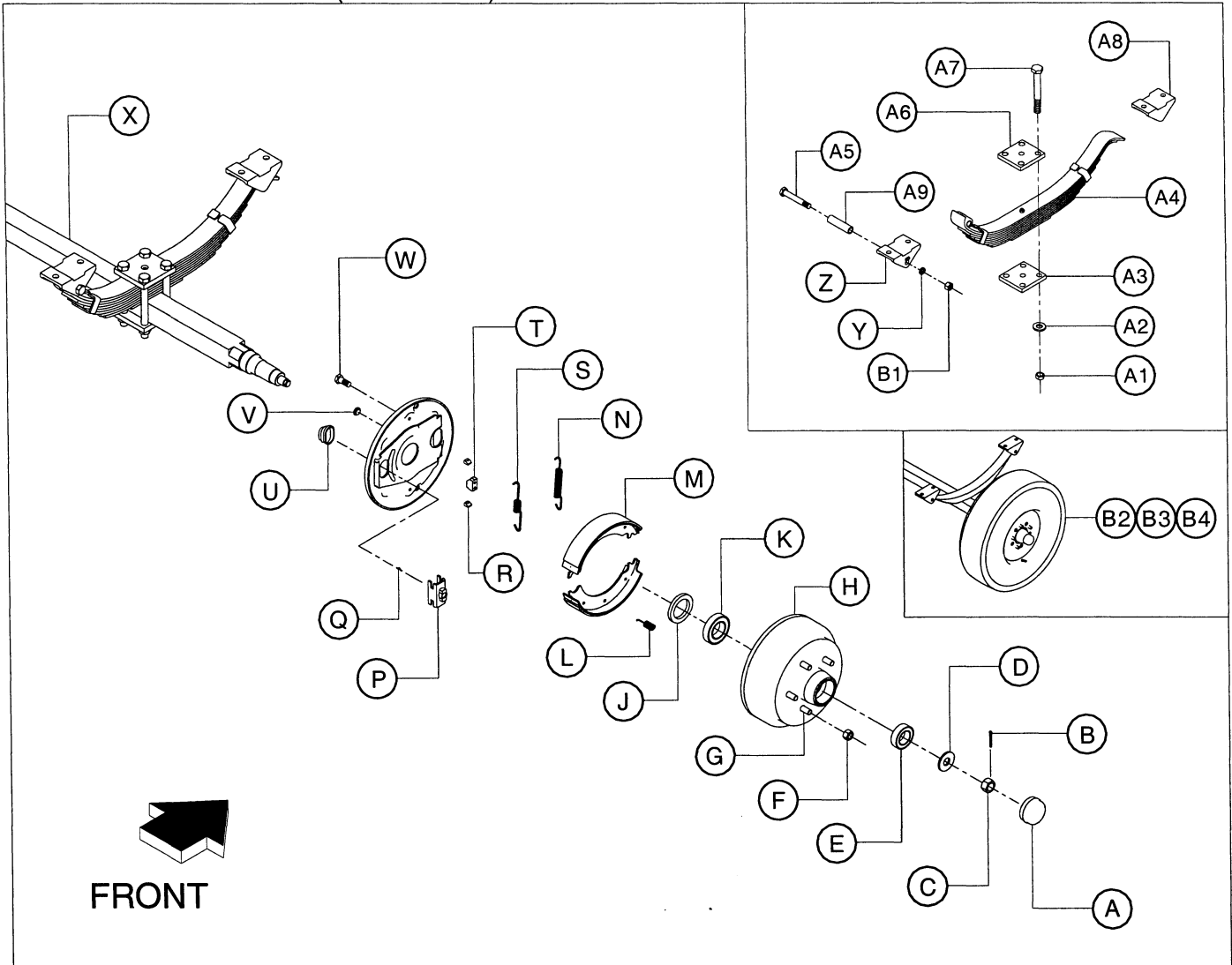
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22391833	2	NUT , LOCK				
B	22391841	2	CAP				
C	22391809	1	EYE , PINTLE				
D	22391817	2	SCREW				
E	22391825	4	WASHER				
F	22407761	1	SHAFT , TOW BAR (MSA)				
	22391775	1	SHAFT , TOW BAR (ESA)				
G	22391858	2	CAP , GREASE FITTING				
H	22391767	2	FITTING , GREASE				
J	22407787	1	PLATE , ROTATION STOP (MSA ONLY)				
K	22407779	1	WASHER (MSA ONLY)				
L	22391783	1	WASHER				
M	22391791	1	NUT , LOCK				
N	22391759	1	DRAWBAR				
P	22391890	2	SCREW				
Q	22391882	2	WASHER				
R	22391874	1	PLATE				
S	22391866	1	PIN				
—	22407753	1	DRAWBAR ASSEMBLY (MSA) (ITEMS A THRU S)				
—	22391700	1	DRAWBAR ASSEMBLY (ESA) (ITEMS A THRU S EXCEPT FOR ITEMS J AND K)				

STEERABLE RUNNING GEAR (FRONT AXLE)



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22392153	2	COVER , HUB	U	22392377	2	PIN , BALL
B	22392237	2	PIN , COTTER	V	22392385	2	NUT
C	22392146	2	NUT	W	22392393	2	ROD , TRACK
D	22392229	2	WASHER , HUB	X	22392427	2	SCREW
E	22392138	2	BEARING , OUTER	Y	22391858	4	CAP , GREASE FITTING
F	22392211	10	NUT , WHEEL	Z	22391767	4	FITTING , GREASE
G	22392203	10	STUD , WHEEL	A1	22392294	1	BEAM , FRONT AXLE
H	22392120	2	FRONT HUB ASSEMBLY	A2	22256515	2	TIRE
J	22392161	2	BEARING , INNER	A3	22343545	2	WHEEL
K	22392179	2	SEAL	A4	35148204	2	STEM , VALVE
L	22392286	4	BUSHING	—	22391726	1	FRONT AXLE ASSEMBLY (INCLUDES ITEMS A-L , P-T , Y-A1)
M	22392419	4	NUT , LOCK	—	22391734	1	TRACK ROD ASSEMBLY (INCLUDES ITEMS U - W)
N	22392401	8	WASHER	————— ITEMS M , N AND X ARE NOT INCLUDED WITH ABOVE ASSEMBLIES.			
P	22392187	1	LEFT FRONT AXLE STUB				
	22392195	1	RIGHT FRONT AXLE STUB				
Q	22392252	2	SCREW				
R	22392260	2	NUT , LOCK				
S	22392245	2	WASHER				
T	22392278	2	PIN , KING				

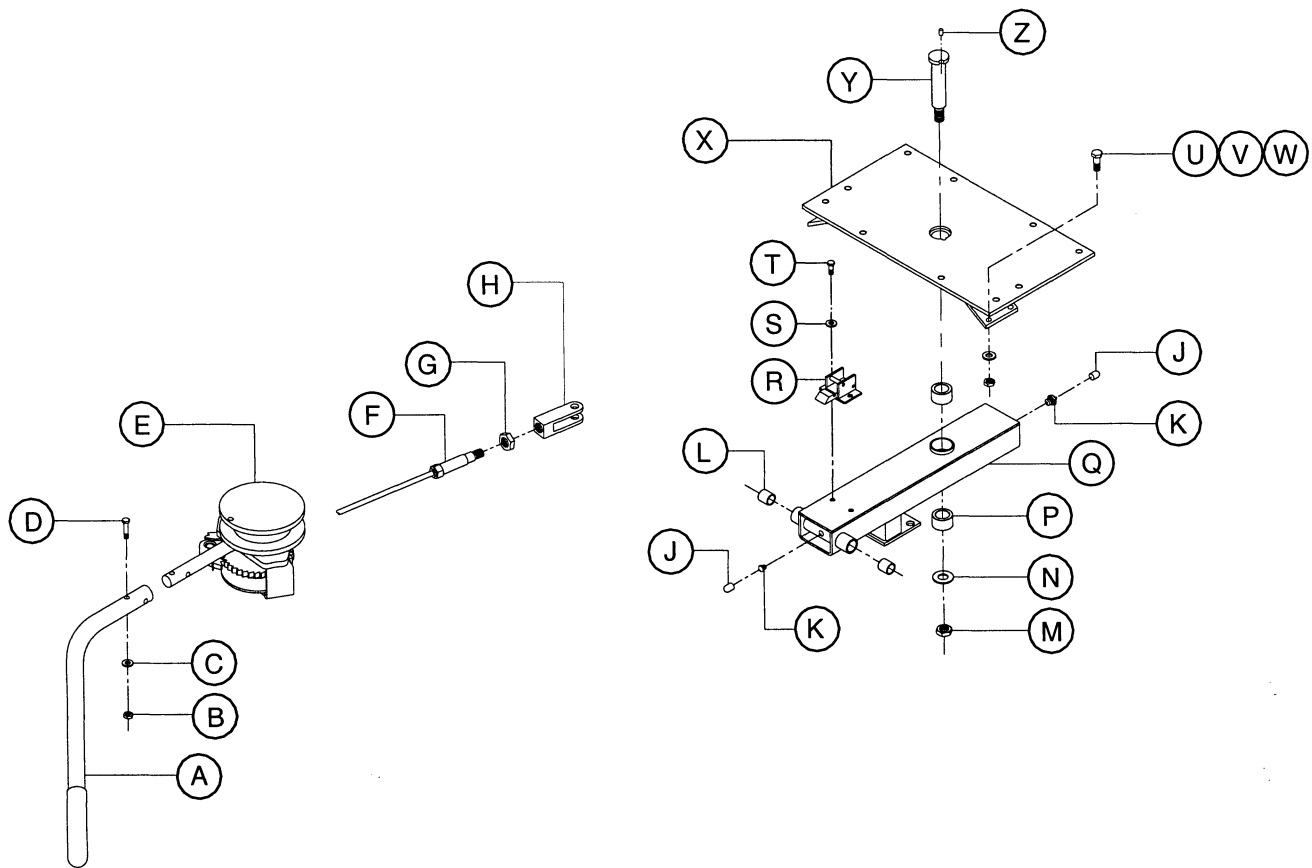
STEERABLE RUNNING GEAR (REAR AXLE)



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22392153	2	CAP , HUB	V	22392682	4	PLUG
B	22392237	2	PIN , COTTER	W	22392583	2	SCREW
C	22392146	2	NUT	X	22392435	1	BEAM , REAR AXLE
D	22392229	2	WASHER , HUB	Y	22392344	4	WASHER
E	22392138	2	BEARING , OUTER	Z	22392310	4	SHACKLE , FRONT
F	22392211	10	NUT , WHEEL	A1	22392112	16	NUT , LOCK
G	22392203	10	STUD , WHEEL	A2	22392104	16	WASHER
H	22392575	2	DRUM , REAR BRAKE	A3	22392088	4	SPRING BASE , LOWER
J	22392179	2	SEAL	A4	22392302	4	SPRING , LEAF
K	22392161	2	BEARING , INNER	A5	22392336	4	SCREW
L	22392633	4	SPRING	A6	22392070	4	SPRING BASE , UPPER
M	22392625	4	SHOE , BRAKE	A7	22392096	16	SCREW
N	22392617	2	ADJUSTER	A8	22392328	4	SHACKLE , REAR
P	22392658	2	EXPANDER	A9	22392369	4	BUSHING
Q	22392641	2	HOLDER	B1	22392351	4	NUT , LOCK
R	22392591	4	WEDGE	B2	22256515	2	TIRE
S	22392666	2	SPRING	B3	22343545	2	WHEEL
T	22392609	2	WEDGE	B4	35148204	2	STEM , VALVE
U	22392674	2	COVER	—	22391742	1	REAR AXLE ASSEMBLY

(INCLUDES ITEMS A THRU X)

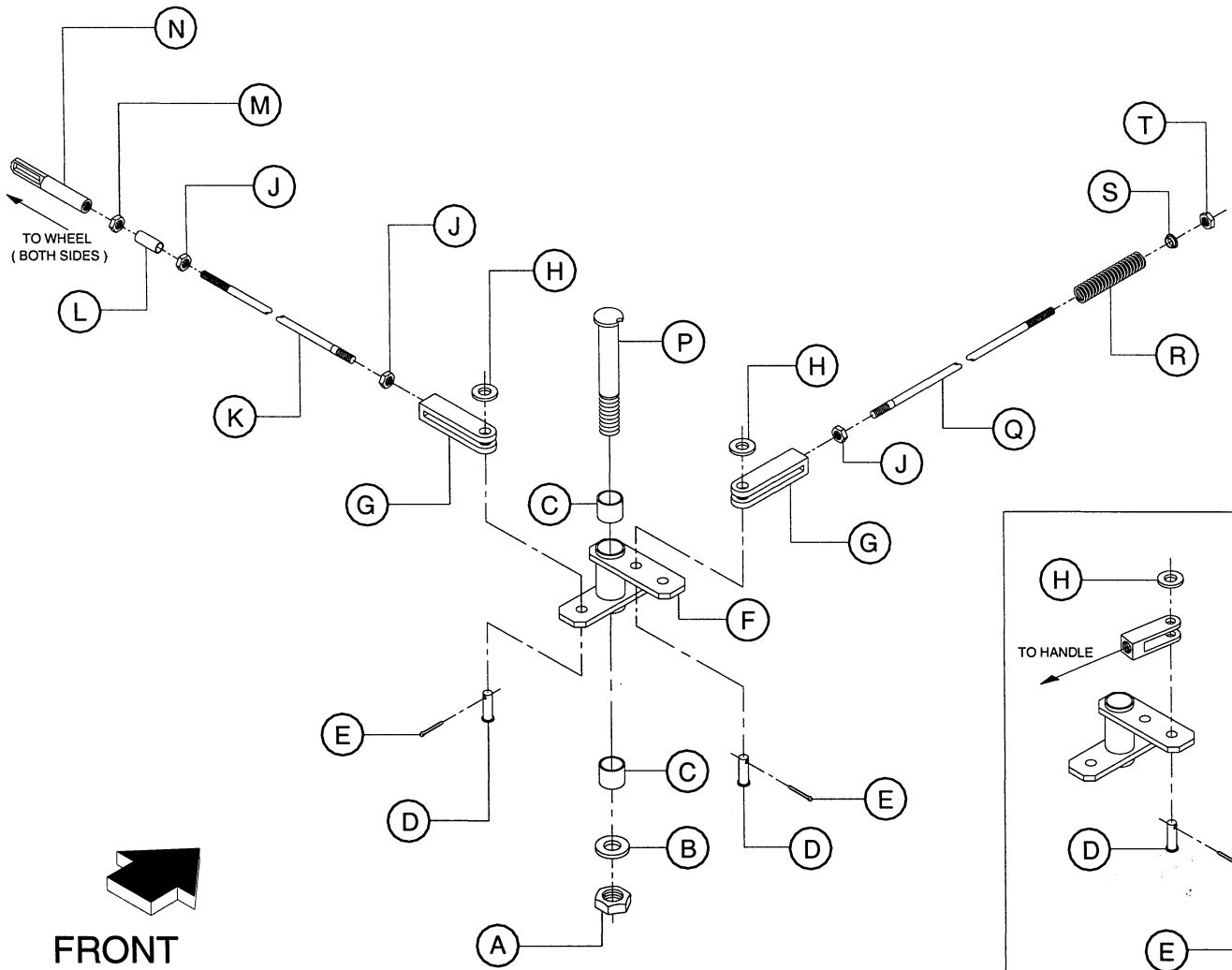
STEERABLE RUNNING GEAR (PARKING BRAKE)



FRONT

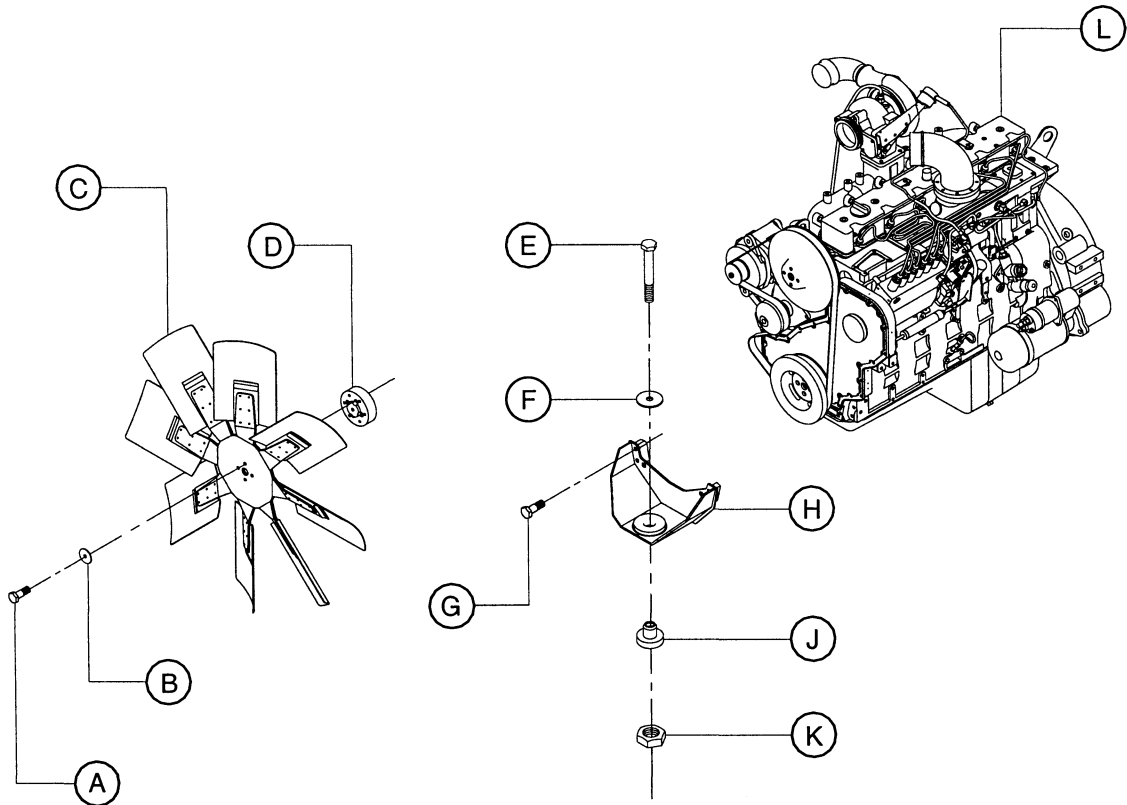
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22391981	1	HANDLE , PARKING BRAKE	Q	22391932	1	BODY
B	22392013	2	NUT	R	22391940	1	LATCH
C	22391882	2	WASHER	S	22391882	2	WASHER
D	22392005	2	SCREW	T	22391890	2	SCREW
E	22391973	1	RACHET , BRAKE	U	22392054	3	SCREW
F	22391999	1	CABLE , BRAKE	V	22392047	3	WASHER
G	22392021	1	NUT	W	22392062	3	NUT
H	22392039	1	YOKE	X	22391965	1	BOX , PINTLE
J	22391858	2	CAP , GREASE FITTING	Y	22391957	1	PIN , LARGE
K	22391767	2	FITTING , GREASE	Z	22391924	1	PIN , SMALL
L	22391908	2	BEARING , BRONZE	-	22391718	1	PINTLE BOX ASSY. (ITEMS A THRU Z)
M	22391791	1	NUT , LOCK				
N	22391783	1	WASHER				
P	22391916	1	BEARING , BRONZE				

STEERABLE RUNNING GEAR (PARKING BRAKES)



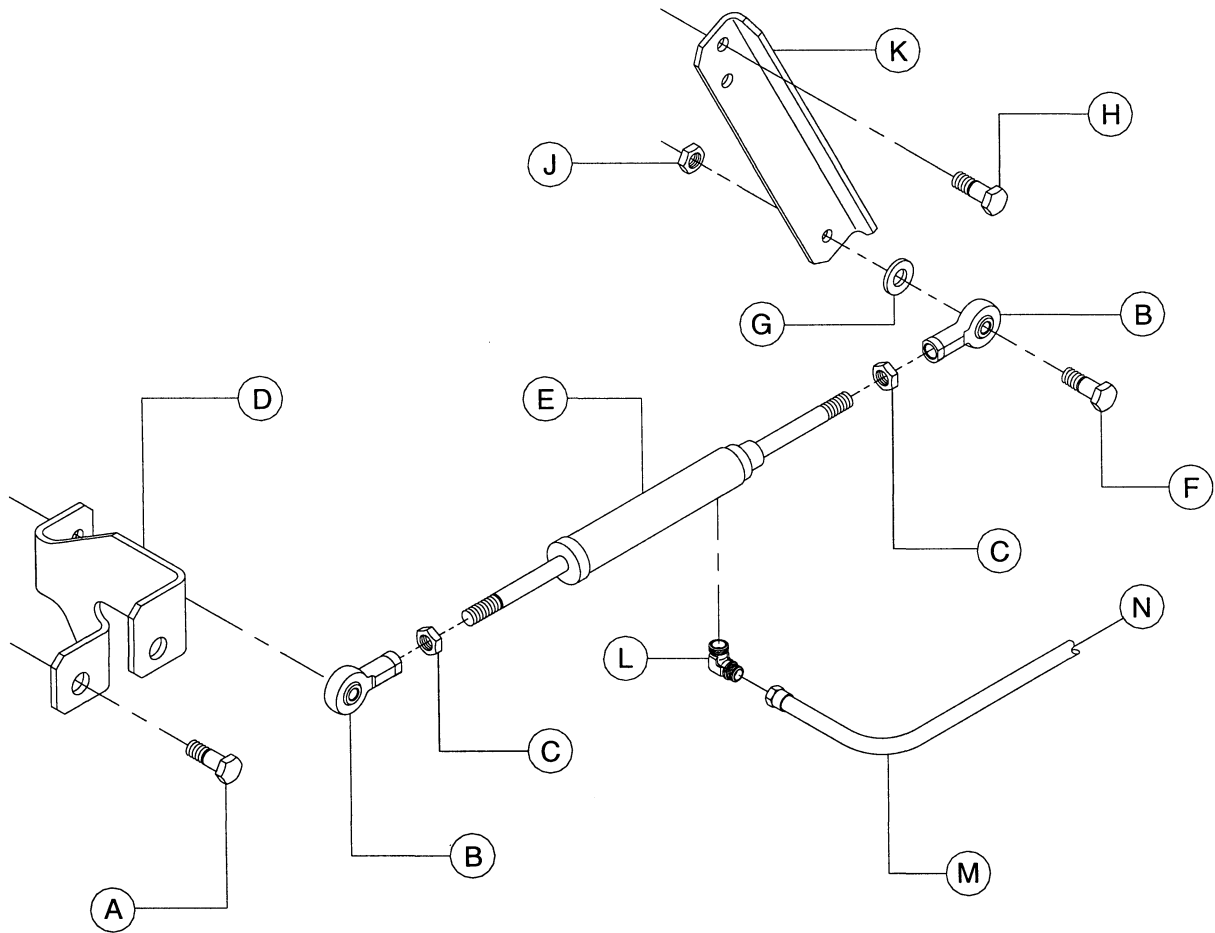
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22391833	1	NUT , LOCK				
B	22392443	1	WASHER				
C	22392500	2	BEARING , BRONZE				
D	22392476	3	PIN				
E	22392468	3	PIN , COTTER				
F	22392492	1	LEVER				
G	22392039	3	YOKE				
H	22392450	3	WASHER				
J	22392021	6	NUT				
K	22392534	2	ROD				
L	22392526	2	NUT , ADAPTER				
M	22392062	2	NUT				
N	22392518	2	HOOK , SAFETY				
P	22392484	1	PIN				
Q	22392542	1	ROD				
R	22392559	1	SPRING				
S	22392567	1	WASHER				
T	22392260	1	NUT , LOCK				
-	22391742	1	REAR AXLE ASSEMBLY (INCLUDES ITEMS A THRU T)				

ENGINE COMPLETE



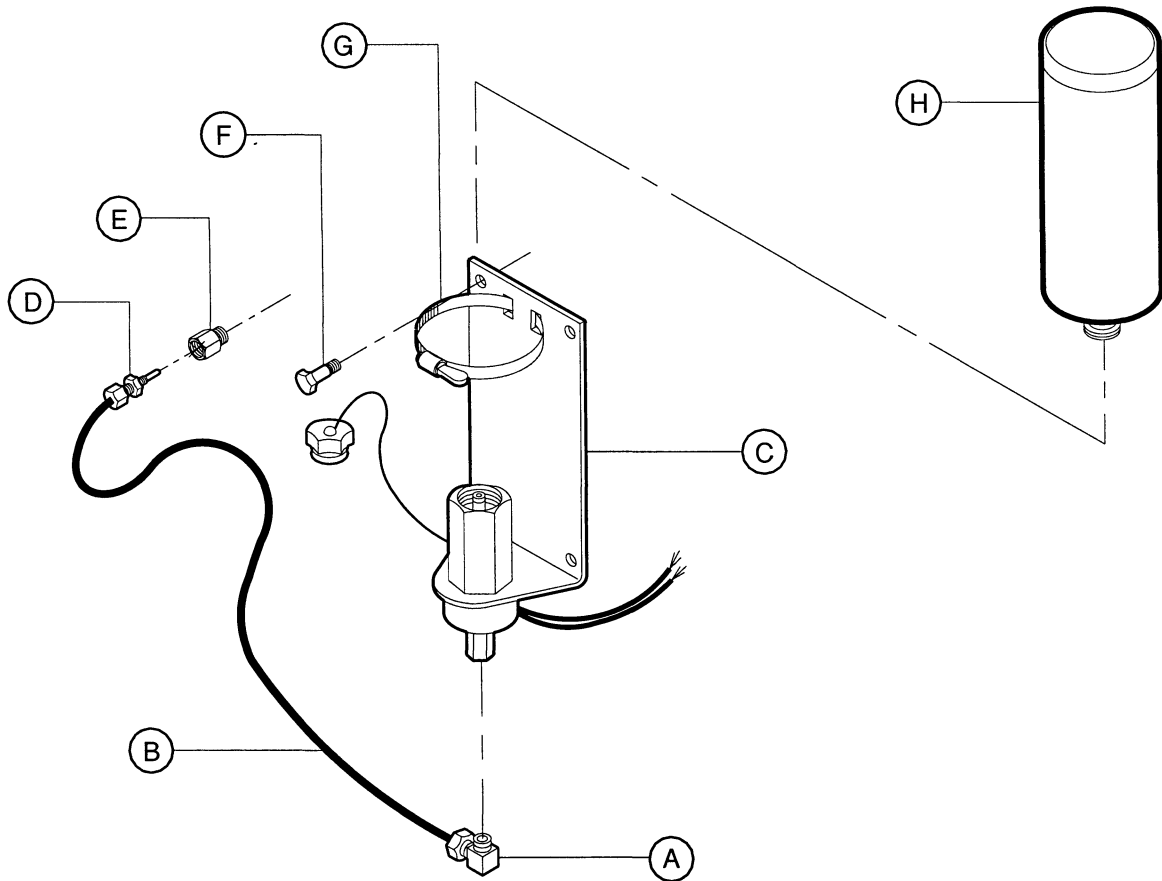
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	96730387	4	SCREW				
B	95935037	4	WASHER				
C	22170138	1	FAN ASSEMBLY				
D	22293179	1	SPACER , FAN				
E	95934253	1	SCREW				
F	35273937	1	WASHER				
G	96730395	4	SCREW				
H	22186241	1	BRACKET , ENGINE				
J	35302835	1	MOUNT , RUBBER				
K	95923363	1	NUT				
L	22134969	1	6C8.3 CU - HP-675-W-CU / XP-750D-W-CU				
	22134951	1	6C8.3 CU - HP-750D-W-CU / XP-825D-W-CU / 9-235				
-	22177737	1	ENGINE OIL FILTER				
-	35374677	1	ENGINE FUEL FILTER				
-	22345748	1	ENGINE WATER FILTER				
-	22345755	1	STARTER MOTOR				
-	22345763	1	ENGINE BELT				
-	22178115	1	ALTERNATOR				

REGULATION / AIR CYLINDER



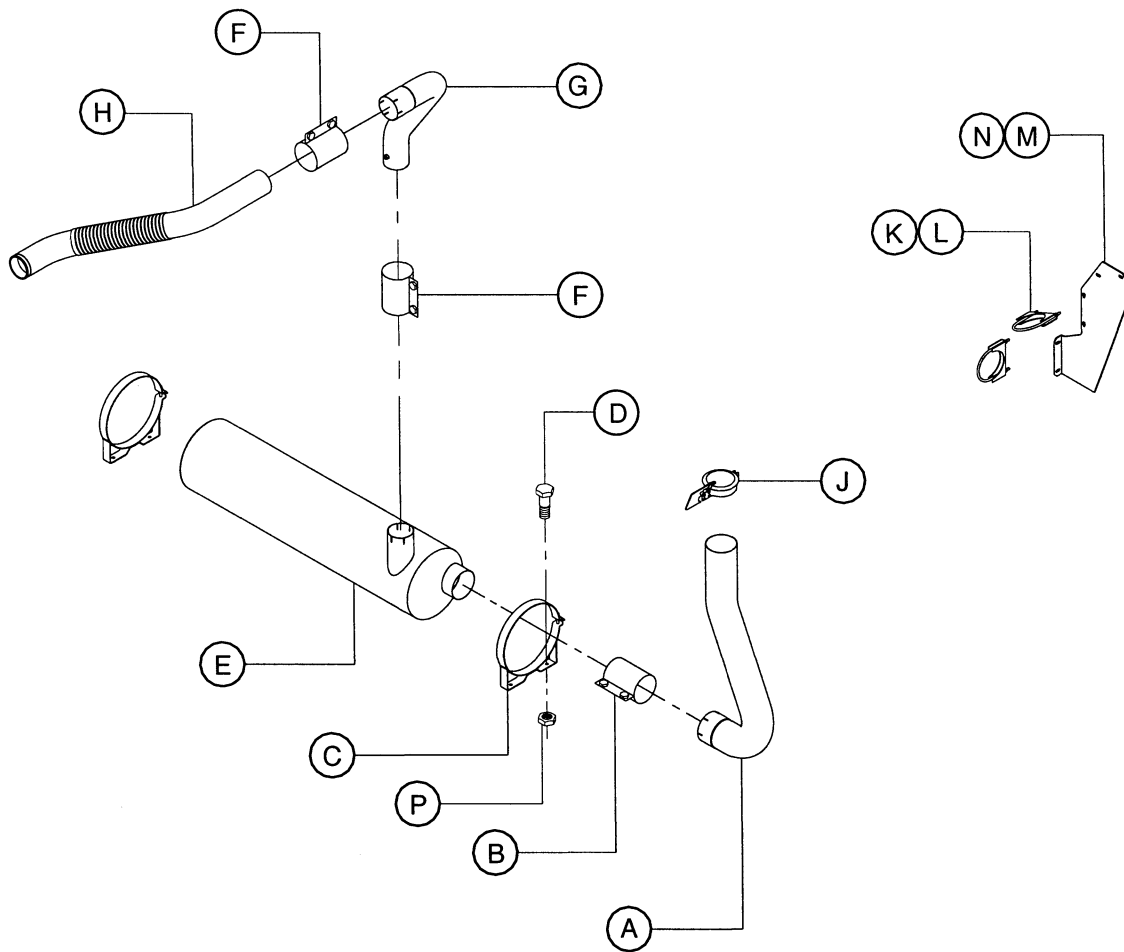
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	96702279	2	SCREW				
B	35328467	2	BEARING , ROD END				
C	95935086	2	NUT				
D	22276083	1	BRACKET , CYLINDER MOUNTING				
E	54466859	1	CYLINDER , AIR				
F	35252451	2	SCREW				
G	95935029	2	SPACER				
H	35307818	2	SCREW				
J	35144492	2	NUT				
K	22276554	1	LEVER , AIR CYLINDER				
L	35301126	1	ELBOW				
M	35289578	1	HOSE ASSEMBLY				
N			TO 1/4" NPT CROSS AT UNLOADER				

ETHER COLD START KIT



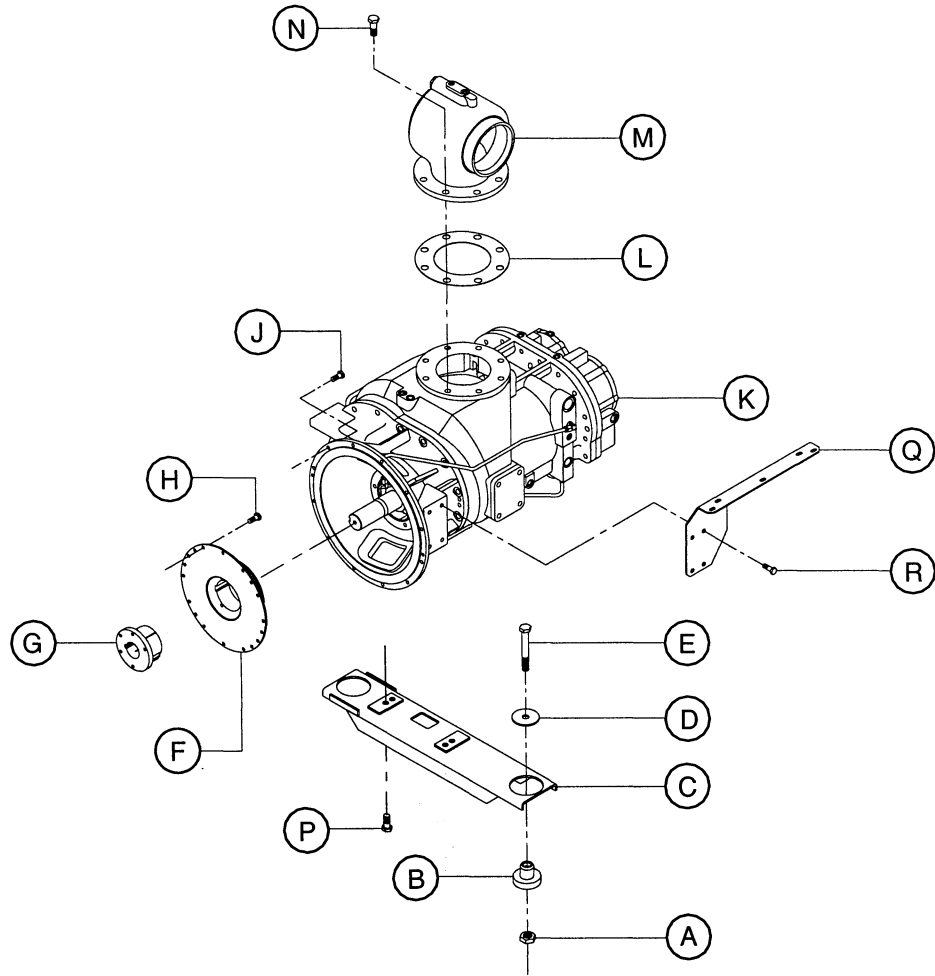
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35103498	1	ELBOW				
B	35132166	1	TUBING				
C	35357961	1	VALVE AND BRACKET ASSEMBLY				
D	35602812	1	ATOMIZER				
E	95930301	1	BUSHING (TO PORT ON ENGINE INTAKE MANIFOLD)				
F	35279025	4	SCREW				
G	35103506	1	CLAMP , BAND				
H	35112911	1	CYLINDER , ETHER				
—	35357052	1	STARTING AID KIT (INCLUDES ITEMS A - G)				

EXHAUST COMPLETE



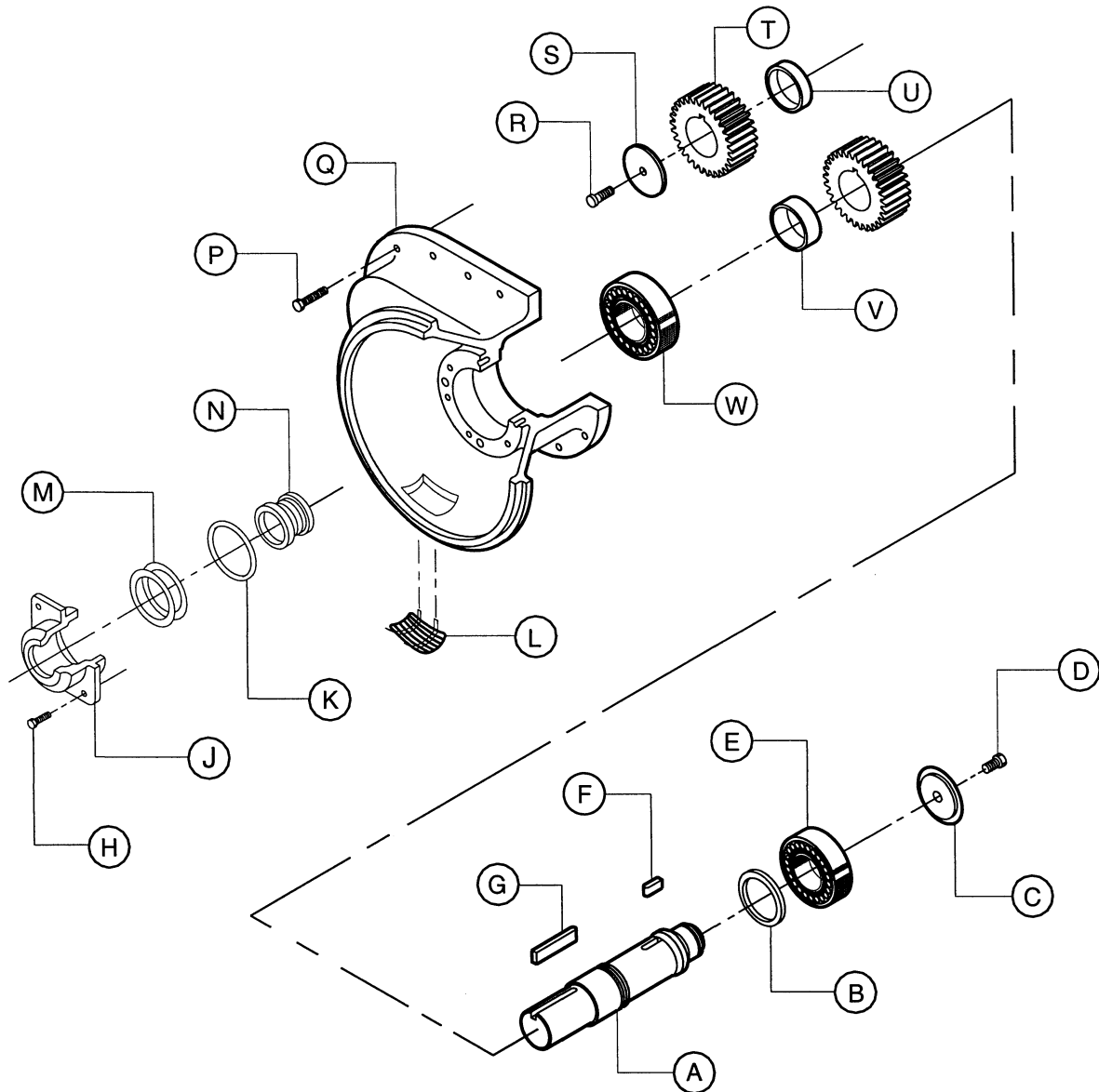
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22288849	1	PIPE , EXHAUST				
B	35307131	1	CLAMP , SEAL				
C	36866929	2	CLAMP , MOUNTING				
D	36889608	4	SCREW				
E	36866911	1	MUFFLER				
F	35313303	2	CLAMP , SEAL				
G	22208474	1	PIPE , EXHAUST				
H	22207120	1	PIPE , TURBO				
J	35857036	1	CAP , RAIN				
K	35127653	2	CLAMP				
L	95935037	4	WASHER (ON CLAMPS)				
M	22289995	1	SUPPORT				
N	35279025	2	SCREW				
P	36881886	4	NUT				

AIR END COMPLETE



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	95923363	2	NUT				
B	35302835	2	MOUNT , RUBBER				
C	22177703	1	BRACKET , AIR END MOUNTING				
D	35273937	2	WASHER				
E	95934253	2	BOLT				
F	35834795	1	COUPLING , AIR END / ENGINE				
G	35103852	1	BUSHING , COUPLING				
H	95220604	8	SCREW				
J	96701917	12	SCREW				
K	42437566	1	AIR END ASSEMBLY (HP-675)				
	42437524	1	AIR END ASSEMBLY (HP-750 & XP-750)				
	42437582	1	AIR END ASSEMBLY (XP-825 & 9 / 235)				
L	36786572	1	GASKET , UNLOADER				
M	36734515	1	UNLOADER ASSEMBLY				
N	35272558	6	SCREW (45 MM)				
	96700901	2	SCREW (40 MM)				
P	35358274	4	SCREW				
Q	22283758	1	SUPPORT , WIRE ROUTING				
R	96701495	4	SCREW				

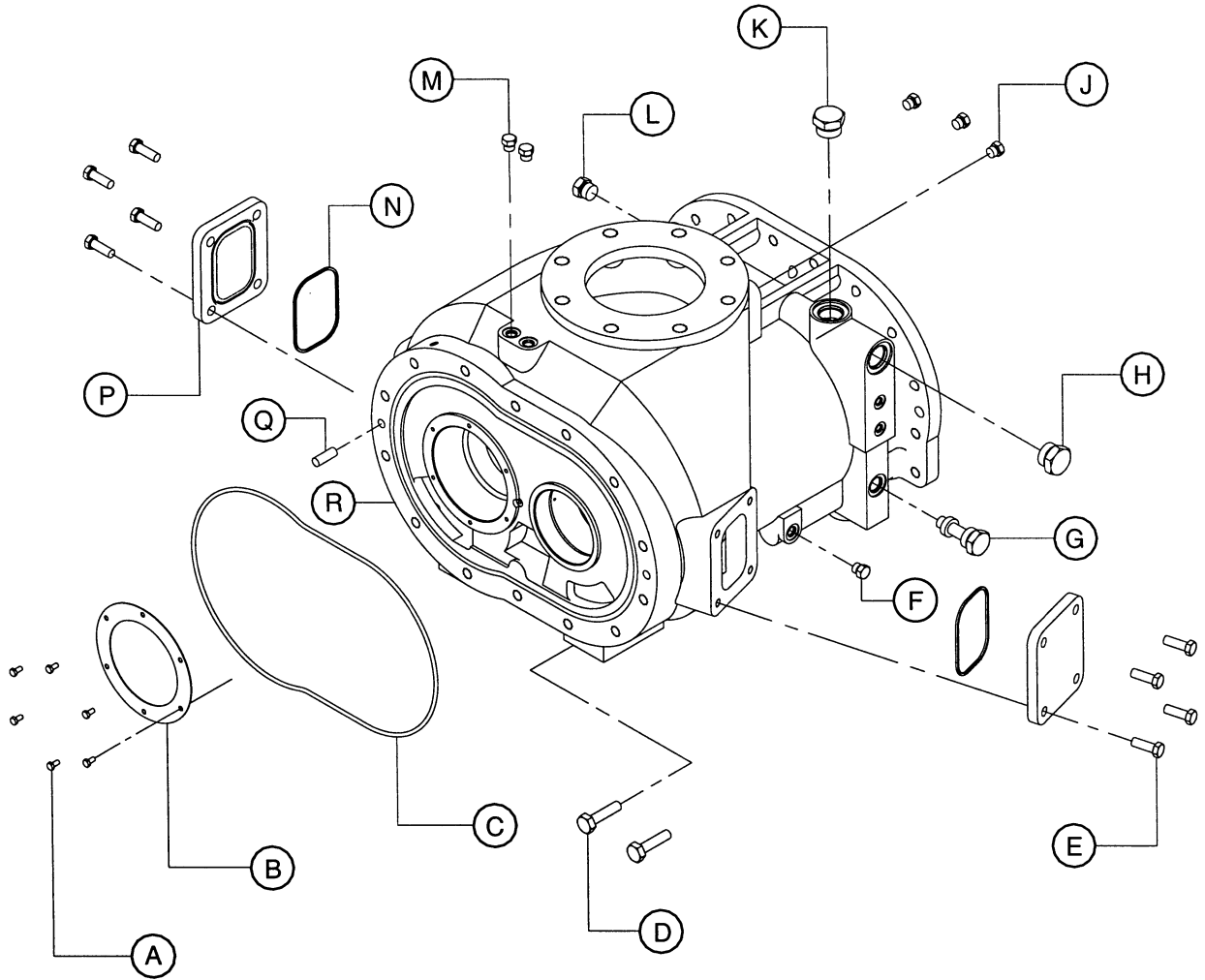
AIR END ASSEMBLY



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	36846400	1	SHAFT , DRIVE	M	36846442	1	SET , SHIM
B	36851681	1	SPACER	N	35593508	1	SEAL , SHAFT
C	36764785	1	PLATE , CLAMP	P	96716162	14	SCREW
D	35336304	1	SCREW	Q	36851459	1	HOUSING , GEAR CASE
E	36854925	1	BEARING , INBOARD	R	96706254	1	SCREW
F	35361328	1	KEY	S	35255819	1	PLATE , CLAMP
G	35364975	1	KEY , COUPLING	T	SEE GEAR SET CHART		
H	96712187	6	SCREW	U	39326483	1	SPACER
J	36507515	1	COVER , SEAL	V	36846418	1	SPACER
K	95358164	1	O-RING	W	36846426	1	BEARING , OUTBOARD
L	36798346	1	GUARD , BOTTOM				
	36798361	1	GUARD , TOP				

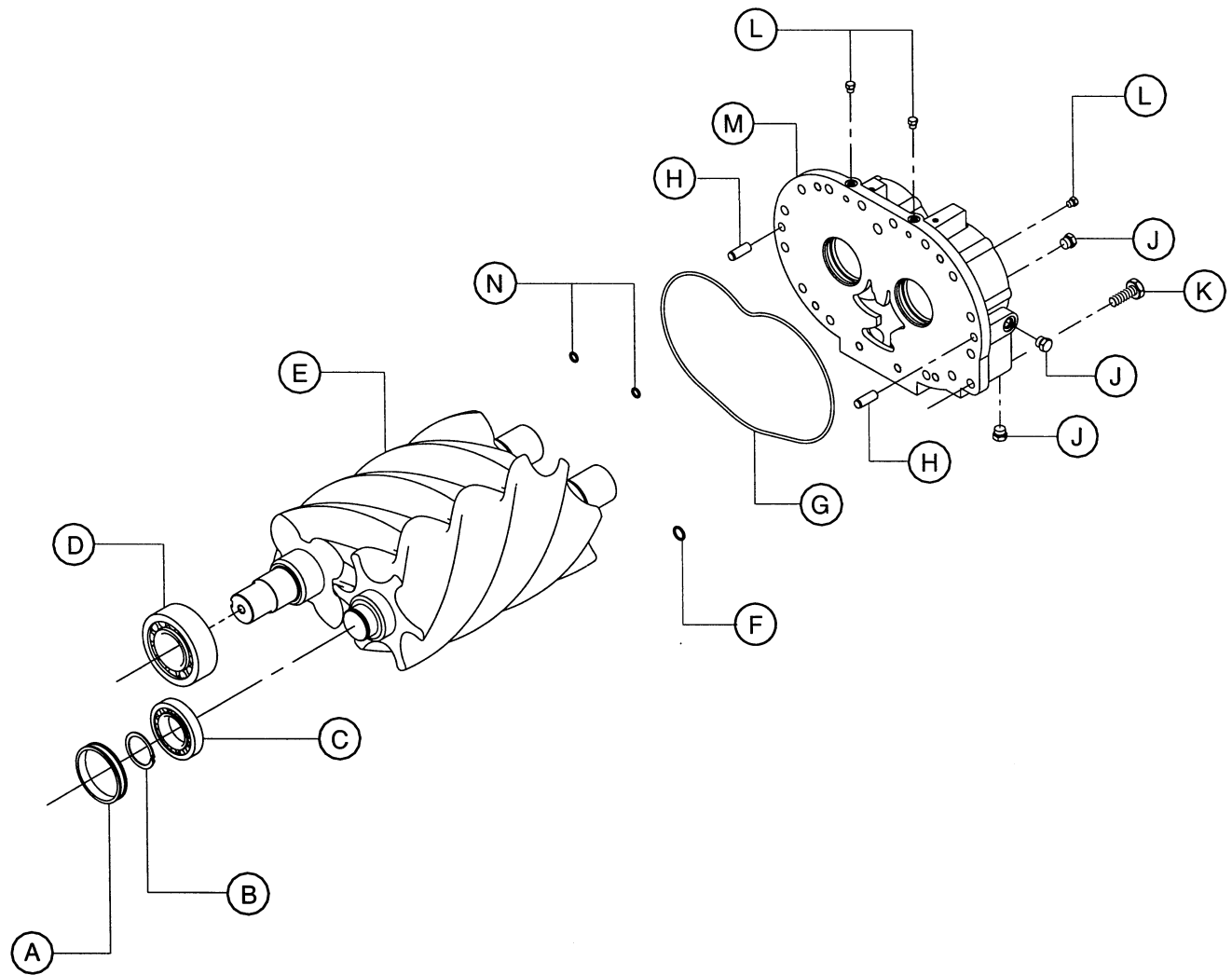
UNIT	AIR END ASSY.	GEAR SET
HP-675-W-CU	42437566	35298132
XP-750D-W-CU	42437574	35335363
HP-750D-W-CU	42437574	35335363
XP-825D-W-CU	42437582	35334853

AIR END ASSEMBLY



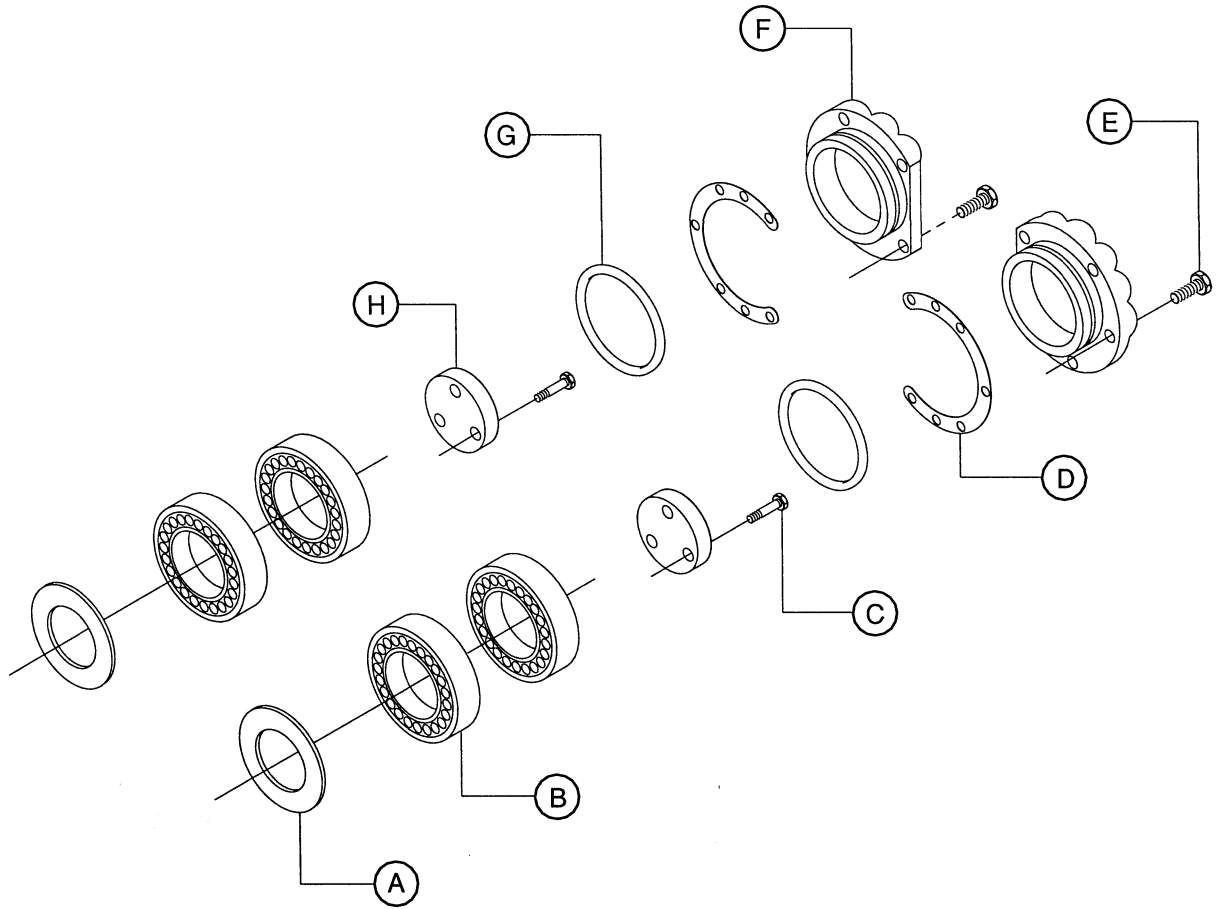
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	96716105	6	SCREW				
B	39326749	1	PLATE , RETAINER				
C	39253992	1	O-RING				
D	35279009	2	SCREW				
E	96712179	8	SCREW				
F	95938205	1	PLUG				
G	39330626	1	14MM ORIFICE				
H	95939856	1	PLUG				
J	95938205	3	PLUG				
K	95939856	1	PLUG				
L	95938221	1	PLUG				
M	95938205	2	PLUG				
N	95023073	2	O-RING				
P	22219687	2	PLATE , COVER				
Q	95239927	2	PIN , DOWEL				
R	22124317	1	HOUSING , ROTOR				

AIR END ASSEMBLY



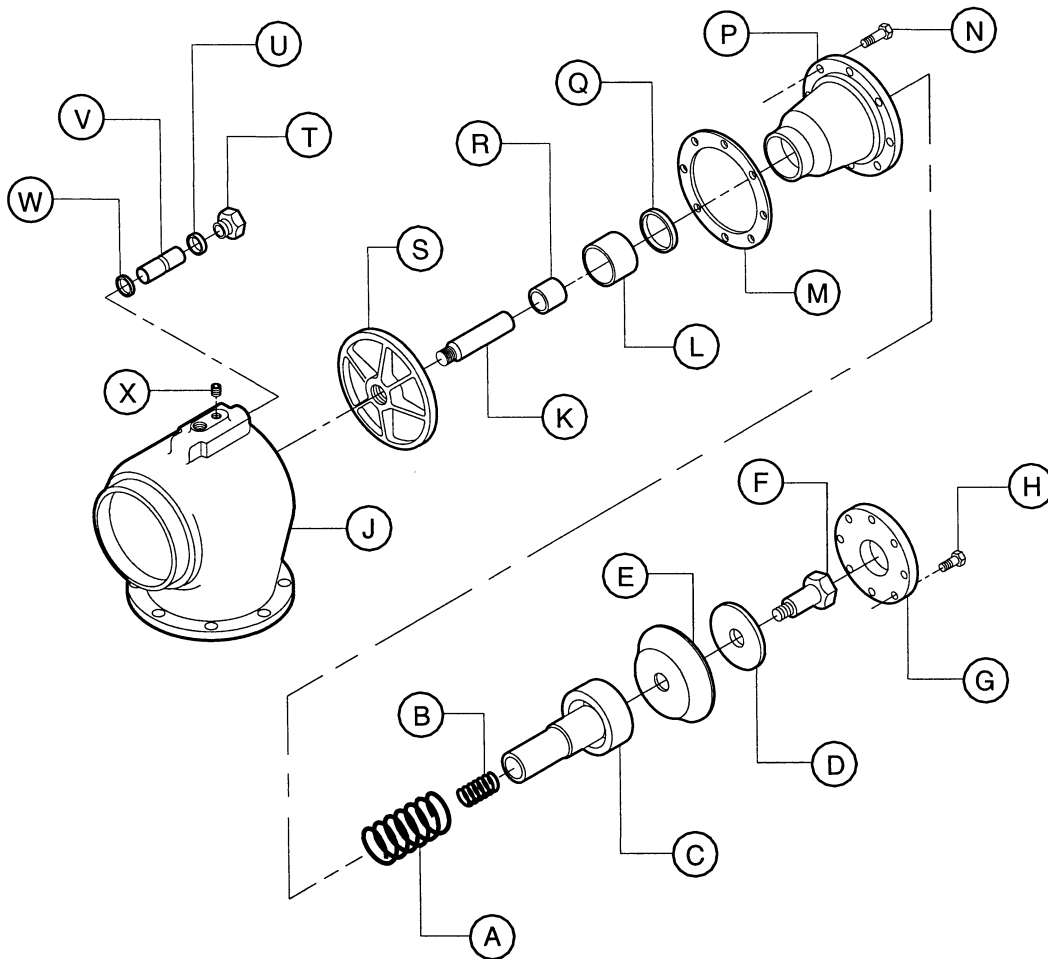
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35262963	1	SPACER				
B	95096806	1	RING , SNAP				
C	35313568	1	BEARING , FEMALE ROTOR				
D	39322706	1	BEARING , MALE ROTOR				
E	36005031	1	SET , ROTOR				
F	95022141	1	O-RING				
G	39253984	1	O-RING				
H	35295336	1	PIN , DOWEL				
J	95938213	3	PLUG				
K	96706262	14	SCREW				
L	95938965	3	PLUG				
M	39890553	1	HOUSING , REAR BEARING				
N	95656260	2	O-RING				

AIR END ASSEMBLY



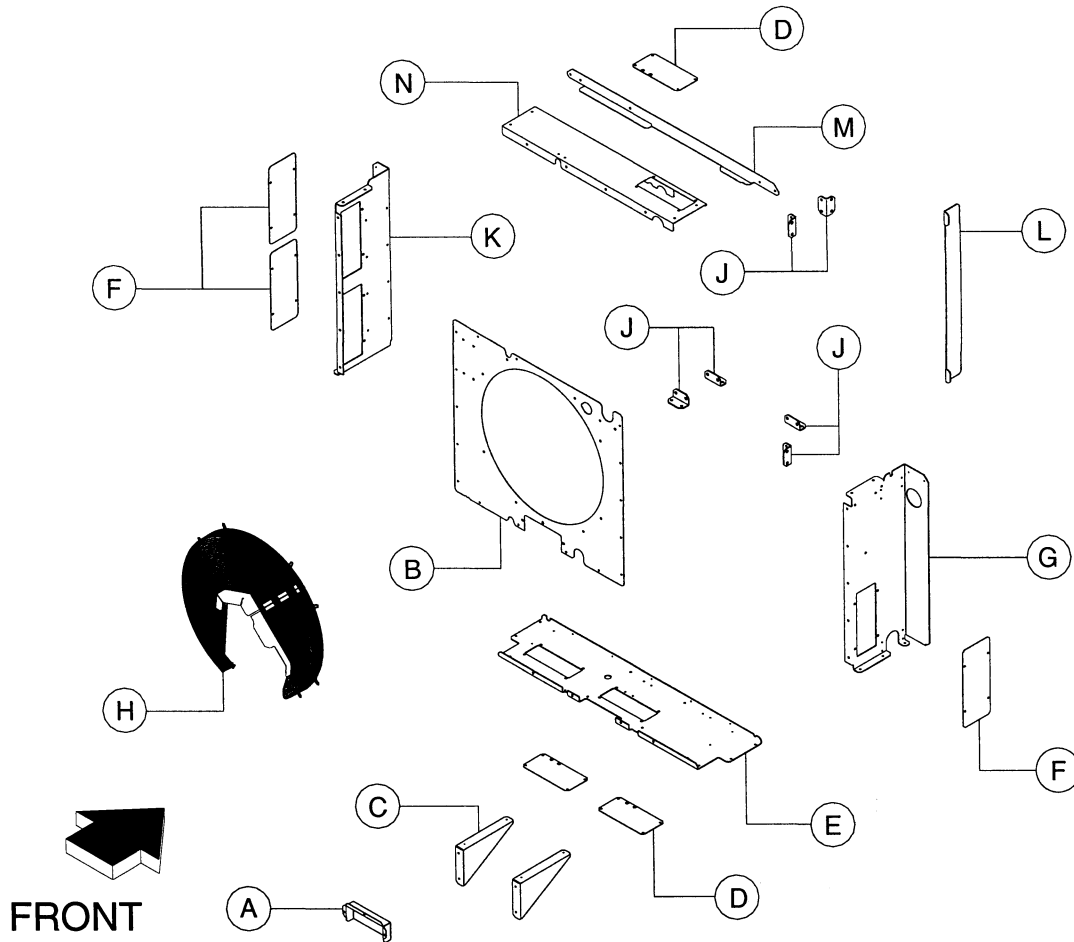
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35299361	2	SHIM				
B	39437686	4	BEARING , TAPER ROLLER				
C	96705983	6	SCREW				
D	39326780	4	SHIM				
	39326798	6	SHIM				
	39326806	4	SHIM				
E	96712179	10	SCREW				
F	39891486	2	COVER , REAR BEARING				
G	95023388	2	O-RING				
H	39436977	2	PLATE , CLAMP				

UNLOADER ASSEMBLY



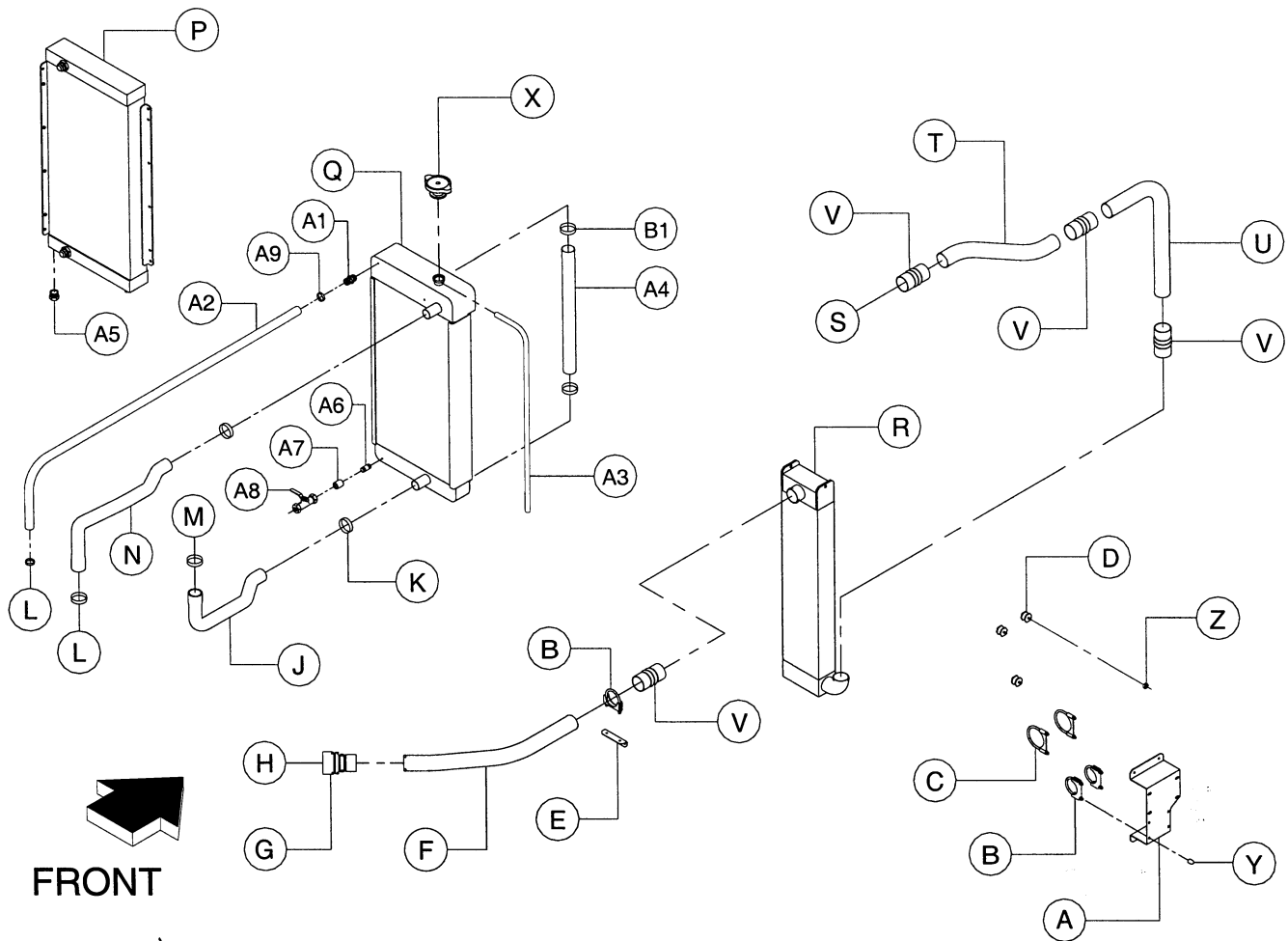
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35332691	1	SPRING , LARGE	X	35287556	1	PLUG
B	35332683	1	SPRING , SMALL		35278571	1	O-RING
C	35591163	1	PISTON	—	36734515	1	UNLOADER ASSEMBLY
D	35327204	1	WASHER				
E	35592534	1	DIAPHRAGM				
F	95934642	1	SCREW				
G	35591189	1	COVER , PISTON				
H	96702659	8	SCREW				
J	36734507	1	BODY , UNLOADER				
K	35332006	1	STEM				
L	35328228	1	BUSHING				
M	35328251	1	GASKET				
N	96702287	12	SCREW				
P	36722460	1	HOUSING				
Q	35328244	1	SEAL				
R	35328269	2	BUSHING				
S	35591171	1	PLATE , VALVE				
T	35328236	1	ADAPTER				
U	35331578	1	GROMMET				
V	36897148	1	VALVE , ANTI-RUMBLE				
W	35331586	1	GROMMET				

RADIATOR AND COOLERS MOUNTING



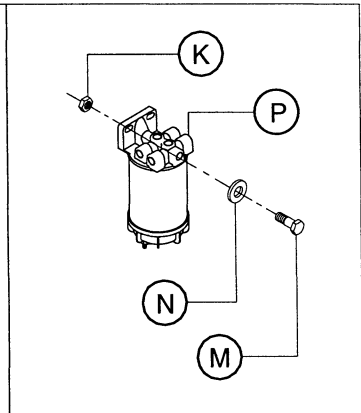
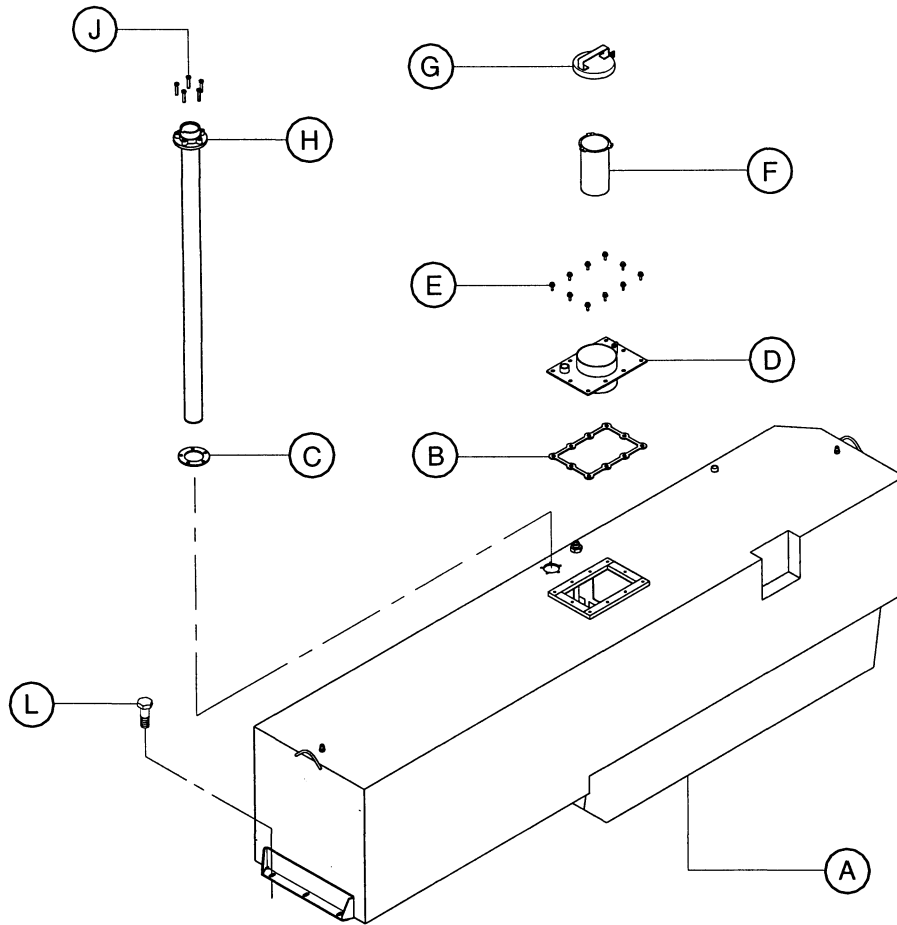
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22302889	1	BAFFLE , FAN				
B	22228753	1	SHROUD , FAN				
C	22228852	2	SUPPORT , COOLER				
D	22303465	3	PLATE , COVER				
E	22186779	1	SUPPORT , BOTTOM COOLER				
F	22228860	3	PLATE , COVER				
G	22202485	1	SUPPORT , LEFT COOLER				
H	22228431	1	GUARD , FAN				
	36889608	8	SCREW (FAN GUARD MOUNTING)				
	36889608	5	SCREW (FAN GUARD JOINING)				
	36881886	5	NUT (FAN GUARD JOINING)				
J	22203608	6	BRACE , COOLER				
K	22202477	1	SUPPORT , RIGHT COOLER				
L	22155870	1	SUPPORT , COOLER				
M	22202501	1	BAFFLE , TOP				
N	22202493	1	SUPPORT , TOP COOLER				
—	36895746	—	NUTSERT				
—	35279025	—	SCREW				

RADIATOR AND COOLERS PIPING



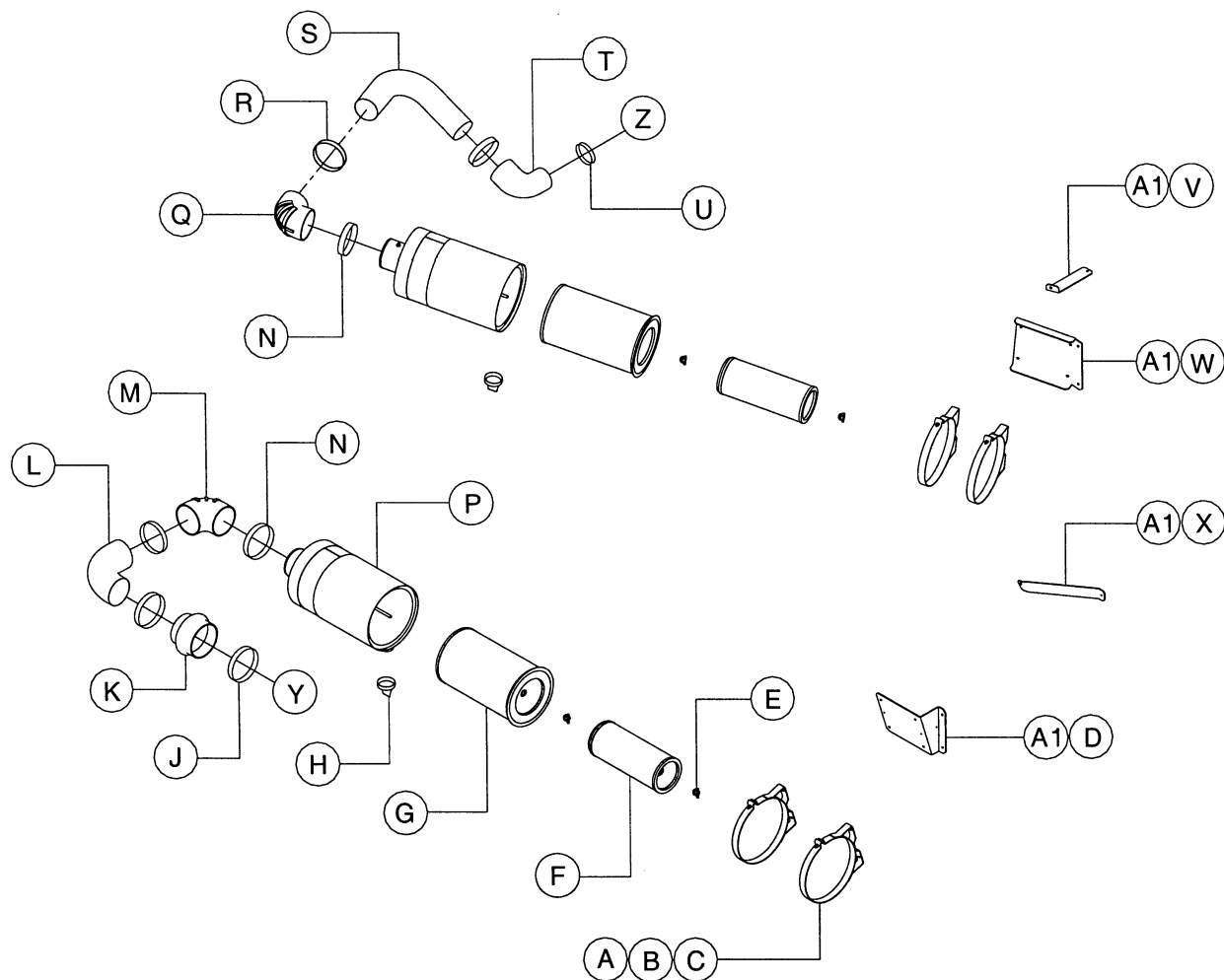
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22207237	1	BRACKET , TUBE	X	36877298	1	CAP , RADIATOR
B	35113646	4	CLAMP	Y	22367163	8	PROTECTOR , THREAD
C	35111731	2	CLAMP	Z	36881886	3	NUT
D	92276096	3	ISOLATOR	A1	35310598	1	ADAPTER
E	22303333	1	SUPPORT	A2	35285600	1	HOSE
F	22207146	1	TUBE , CHARGE AIR OUT	A3	35363498	1	HOSE
G	22058564	1	REDUCER , RUBBER				
H	54444427	1	4" CLAMP (USE 1 ON BIG END AND 1 ITEM " W " ON SMALL END)				
J	22206122	1	HOSE , LOWER RAD.	A4	35286327	1	HOSE
K	35222017	4	CLAMP , HOSE	A5	35287556	1	PLUG
L			TO THERMOSTAT HOUSING	A6	95944575	1	NIPPLE
M			TO BOTTOM OF ENGINE	A7	95953444	1	COUPLING
N	22206130	1	HOSE , TOP RADIATOR	A8	36782167	1	VALVE , BALL
P	22155592	1	COOLER , OIL	A9	95264776	2	CLAMP
Q	36877280	1	RADIATOR	B1	95220851	2	CLAMP
R	22155337	1	COOLER , CHARGE AIR				
S			TO ELBOW AT TURBO				
T	22207161	1	TUBE , UPPER CHARGE AIR				
U	22207153	1	TUBE , LOWER CHARGE AIR				
V	22144497	4	CONNECTOR , RUBBER				
W	22144513	9	3" CLAMP (2 ON EACH END OF ITEM " V ")				

FUEL TANK ASSEMBLY



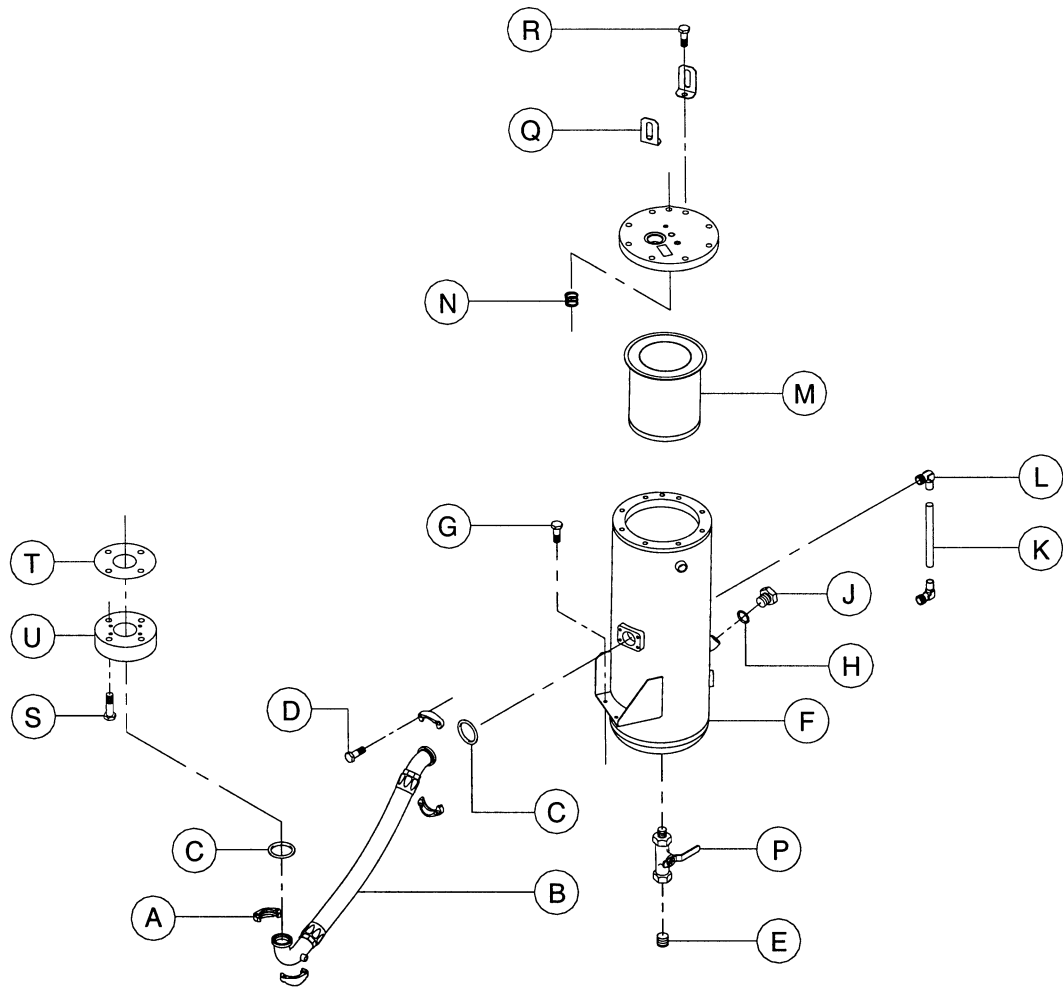
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22160121	1	TANK , FUEL				
B	35389964	1	GASKET , FLANGE FILL				
C	35361849	1	GASKET , FUEL SENDER				
D	35389972	1	FLANGE , FILL				
E	35144328	10	SCREW				
F	36845022	1	STRAINER , FUEL				
G	36845014	1	CAP , FUEL				
H	22155451	1	SENDER , FUEL				
J	36842102	5	SCREW				
K	36881886	2	NUT				
L	36889608	6	SCREW				
M	35271162	2	SCREW				
N	95934998	2	WASHER				
P	22318059	1	SEPARATOR , FUEL WATER				
	54443676	1	KIT , BOWL				
	22201388	1	ELEMENT				
	54443700	1	HEAD , FILTER				
	54443668	1	O-RING				
	54443692	1	PLUG , VENT				

AIR INTAKE COMPLETE



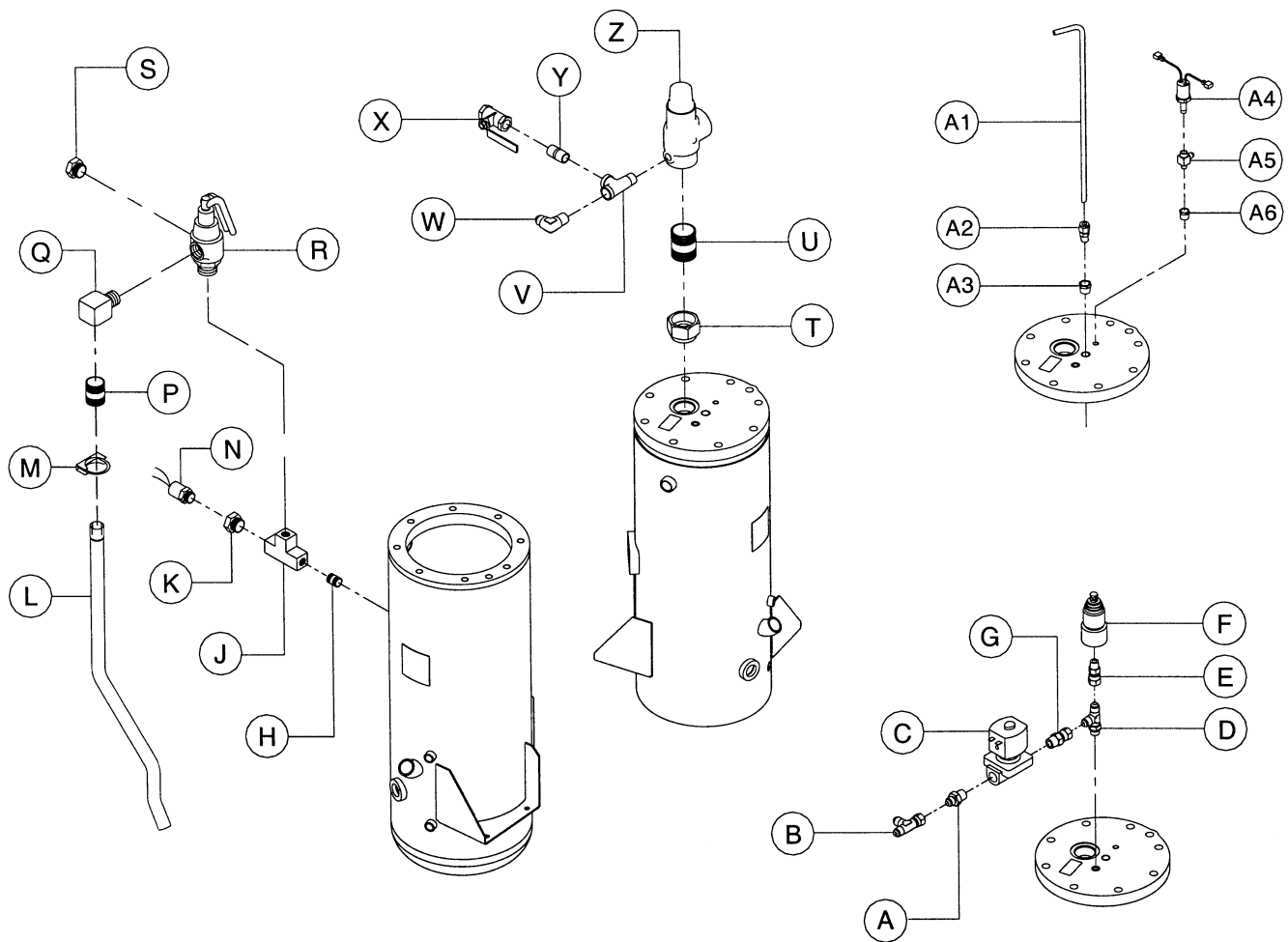
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35863638	4	BAND , MOUNTING	X	22283600	1	SUPPORT
B	96702287	8	SCREW	Y			TO AIR END
C	96735550	8	NUT	Z			TO ENGINE
D	22271746	1	BRACKET	A1	35279025	6	SCREW
E	36867794	4	NUT , WING				
F	36876019	2	ELEMENT , SAFETY				
G	36867786	2	ELEMENT , PRIMARY				
H	36867778	2	EJECTOR , DUST				
J	35119858	1	CLAMP				
K	35112333	1	HOSE , HUMP				
L	22283238	1	TUBE				
M	35117605	1	ELBOW , RUBBER				
N	35116094	4	CLAMP				
P	36866242	2	AIR FILTER ASSEMBLY				
Q	22285787	1	ELBOW , RUBBER				
R	35161025	2	CLAMP				
S	22283246	1	TUBE				
T	35274703	1	ELBOW , RUBBER				
U	36897668	1	CLAMP				
V	22283592	1	SUPPORT				
W	22271738	1	BRACKET , ENGINE A/F				

SEPARATOR TANK ASSEMBLY



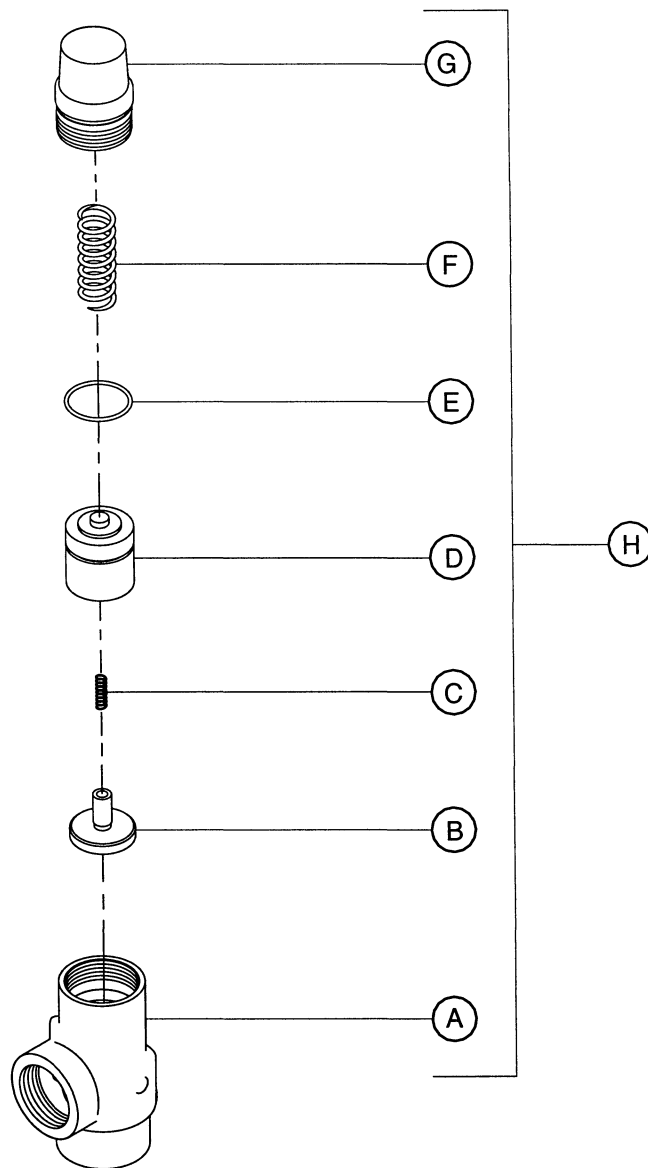
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	36866010	4	FLANGE , SPLIT				
B	22176572	1	HOSE , DISCHARGE				
C	36866028	2	O-RING				
D	96702329	8	SCREW				
E	95280541	1	PLUG (HIGH SPEED RUNNING GEAR)				
F	22188205	1	TANK , SEPARATOR (INCLUDES COVER)				
G	36879492	4	SCREW				
H	35279942	1	O-RING				
J	35579630	1	PLUG , FILLER				
K	22189831	1	TUBE , SIGHT				
L	54627799	2	ELBOW				
M	22291280	1	ELEMENT , SEPARATOR				
N	35602325	1	SPRING				
P	36795680	1	VALVE , BALL (STEERABLE RUNNING GEAR)				
Q	22326763	2	BRACKET , LIFT				
R	96727276	9	SCREW				
S	39179072	4	SCREW				
T	36898492	1	GASKET				
U	36898500	1	ADAPTER , FLANGE				

SEPARATOR TANK PIPING



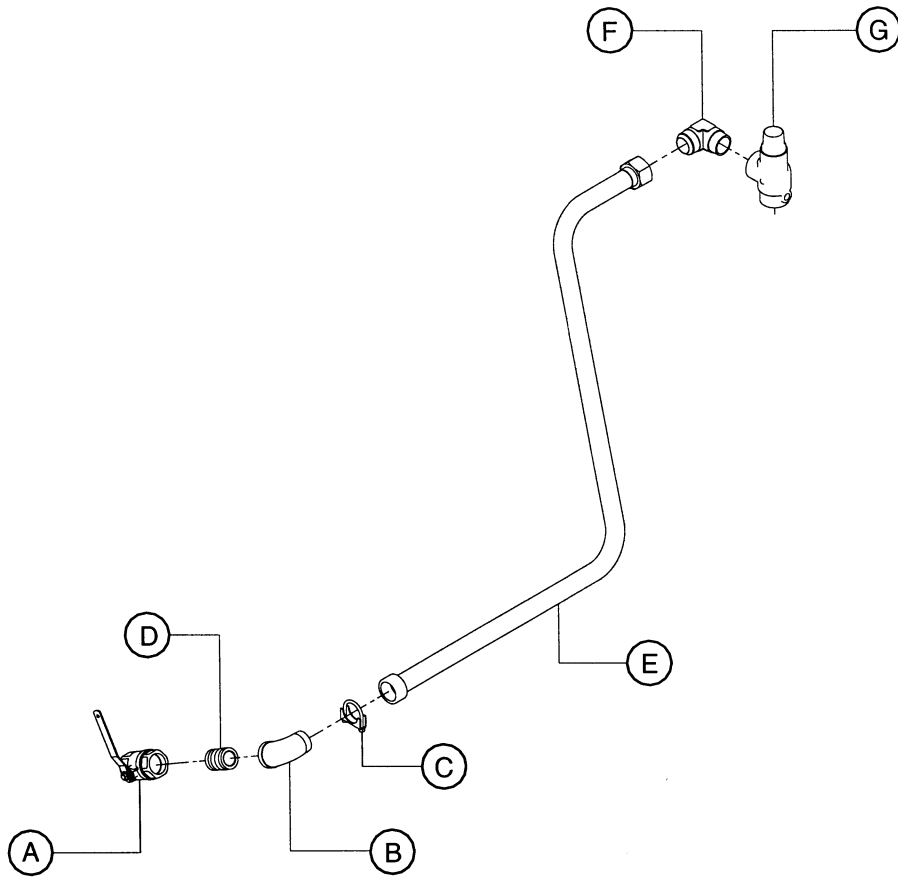
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35290147	1	CONNECTOR	W	35309210	1	ELBOW
B	35283092	1	TEE	X	35581792	1	VALVE , BALL
C	36840841	1	VALVE , SOLENOID	Y	95934279	1	NIPPLE
D	35279850	1	TEE	Z	22217848	1	VALVE , MIN. PRESS.
E	35367846	1	CONNECTOR	A1	36794147	1	TUBE , SCAVENGE
F	36854149	1	REGULATOR (XP UNITS)	A2	35329309	1	FITTING , TUBE
	36854495	1	REGULATOR (HP UNITS)	A3	95953956	1	ADAPTER
	36854149	1	REG. (9 BAR UNITS)	A4	36757573	1	SWITCH , PRESSURE
G	35368927	1	CONNECTOR	A5	35326503	1	TEE
H	95951422	1	NIPPLE	A6	95953899	1	BUSHING
J	95954228	1	TEE				
K	95940060	1	BUSHING				
L	22352934	1	PIPE , SAFETY VALVE				
M	35261155	1	CLAMP				
N	36865756	1	SWITCH , TEMPERATURE				
P	95953758	1	NIPPLE				
Q	95944104	1	ELBOW				
R	39227541	1	VALVE , SAFETY				
S	95928230	1	PLUG				
T	95944641	1	ADAPTER				
U	95953790	1	NIPPLE				
V	95944708	1	TEE				

MINIMUM PRESSURE CHECK VALVE ASSEMBLY



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22218424	1	BODY , VALVE				
B	35367317	1	CV ASSEMBLY				
C	22218457	1	SPRING , SMALL				
D	35367325	1	VALVE , PISTON				
E	35367374	1	O-RING				
F	35367366	1	SPRING , LARGE				
G	22218432	1	CAP , VALVE				
H	22217848	1	MINIMUM PRESSURE CHECK VALVE ASSEMBLY				
-	22218622	1	CHECK VALVE KIT (INCLUDES ITEMS B , C , E & F)				

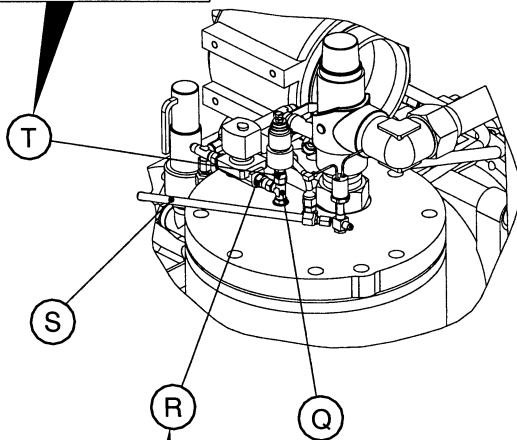
SERVICE PIPING (ONE 2" NPT VALVE)



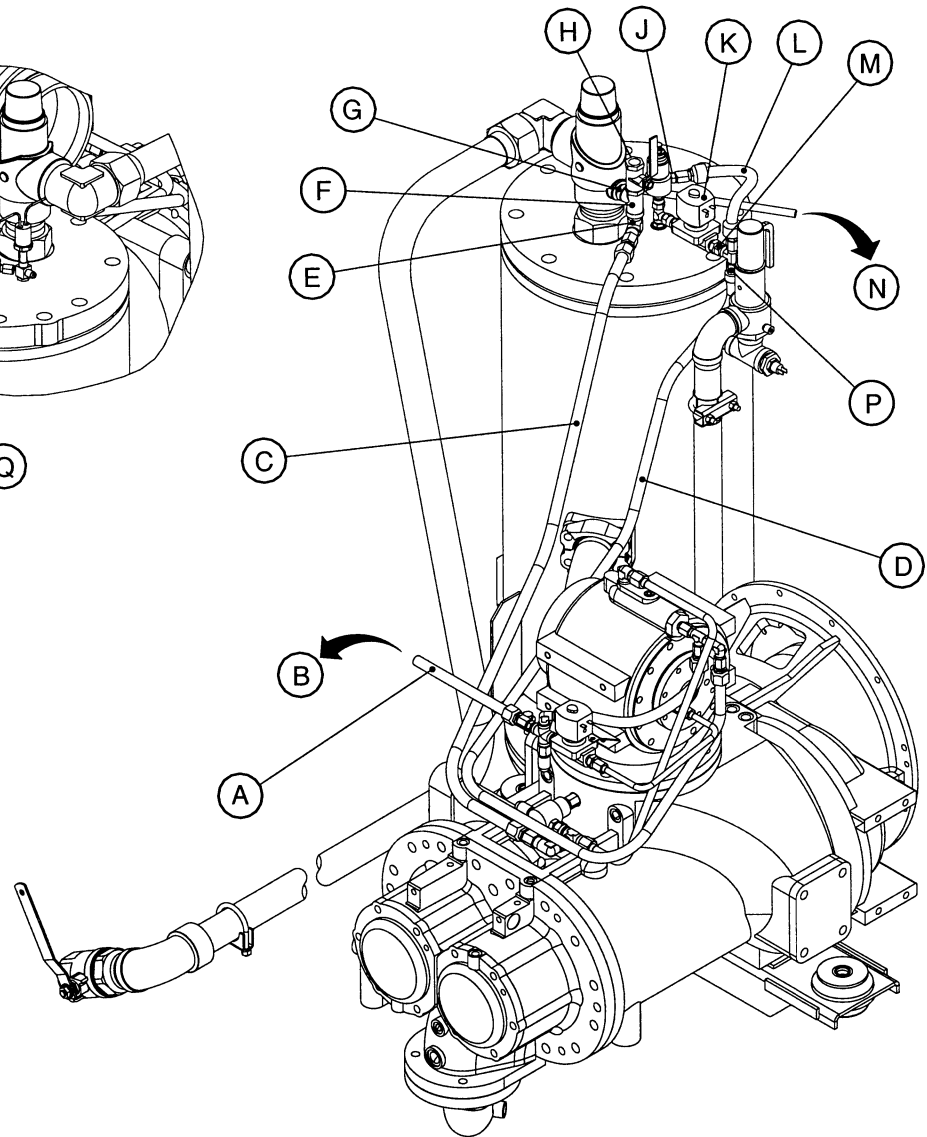
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35602473	1	VALVE , BALL				
B	95944674	1	ELBOW				
C	35192178	1	CLAMP , SADDLE				
D	95097291	1	NIPPLE				
E	22223846	1	PIPE , SERVICE				
F	36786127	1	ELBOW				
G	22217848	1	VALVE , MINIMUM PRESSURE				

AIR PIPING

TO INLET OF
PRESS. REGULATOR

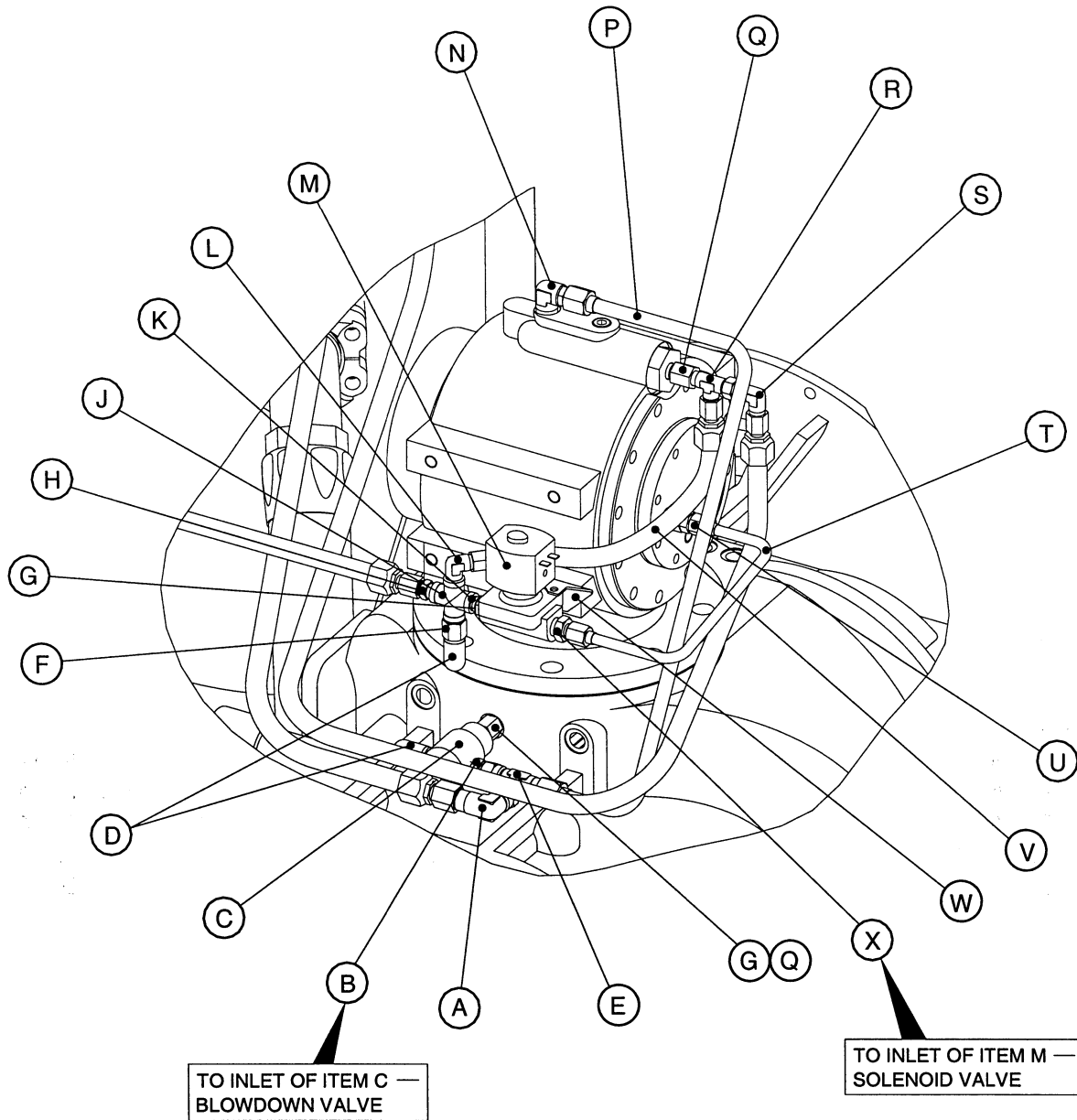


TO INLET OF ITEM K —
SOLENOID VALVE



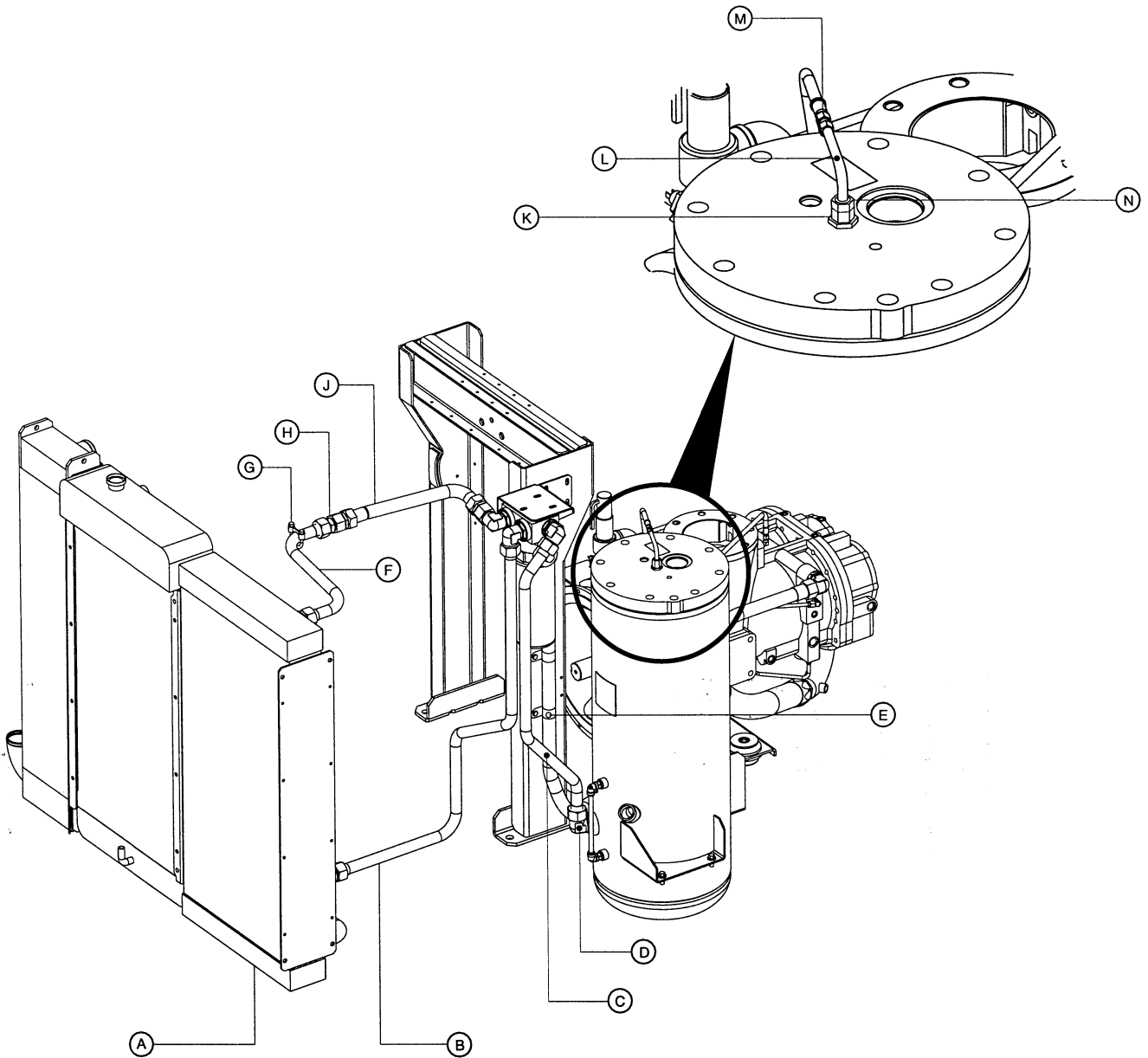
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35289578	1	HOSE ASSEMBLY	Q	35279850	1	TEE
B	TO ENGINE AIR CYLINDER			R	35368927	1	FITTING , SWIVEL
C	35286541	1	HOSE ASSEMBLY	S	35306661	1	HOSE ASSEMBLY
D	35284538	1	HOSE ASSEMBLY	T	35367846	1	CONNECTOR
E	35309210	1	ELBOW				
F	95944708	1	TEE				
G	95934279	1	NIPPLE				
H	35581792	1	VALVE , BALL				
J	35284082	1	CONNECTOR				
K	36840841	1	VALVE , SOLENOID				
L	35282953	1	HOSE ASSEMBLY				
M	35290147	1	CONNECTOR				
N	TO INSTRUMENT PANEL PRESSURE GAGE						
P	35283092	1	TEE				

AIR PIPING



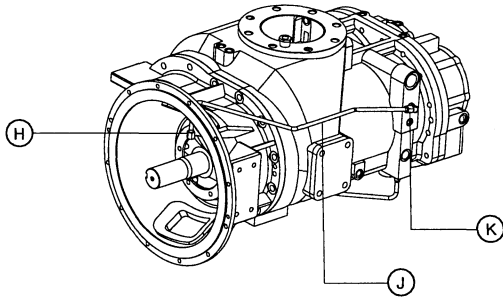
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35287911	1	ELBOW	P	35857176	1	TUBE ASSEMBLY
B	35283134	1	CONNECTOR	Q	35302314	2	ADAPTER
C	35322379	1	VALVE , BLOWDOWN	R	35283050	1	TEE
D	35322395	2	SILENCER	S	35283068	1	ELBOW
E	35287929	1	TEE	T	36867554	1	TUBE ASSEMBLY
F	35322346	1	ORIFICE (.156")	U	36840460	1	VALVE , CHECK (.040")
G	95944575	2	NIPPLE	V	35282961	1	HOSE ASSEMBLY
H	35284082	1	CONNECTOR	W	36841658	1	BRACKET
J	95954293	1	CROSS	X	35290147	1	CONNECTOR
K	95940748	1	BUSHING				
L	35279934	1	ELBOW				
M	36881944	1	VALVE , SOLENOID				
N	35287937	1	ELBOW				

OIL PIPING

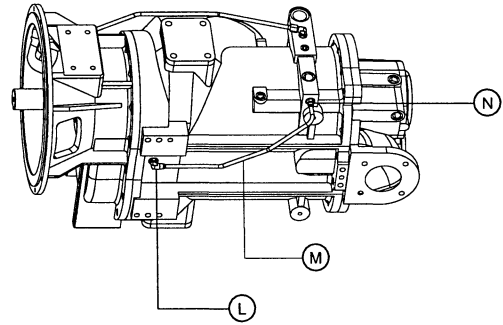


ITEM	CPN	QTY	DESCRIPTION
A	22155592	1	COOLER , OIL
B	22214787	1	TUBE ASSEMBLY
C	22214803	1	TUBE ASSEMBLY
D	35279777	1	ELBOW
E	35114057	3	CLAMP
F	22214779	1	TUBE ASSEMBLY
G	36785277	1	CLAMP , SADDLE
H	95469052	1	UNION
J	35228212	1	HOSE ASSEMBLY
K	95953956	1	REDUCER
L	36794147	1	TUBE , SCAVANGE
M	36840411	1	VALVE , CHECK
N	35329309	1	FITTING , LENZ

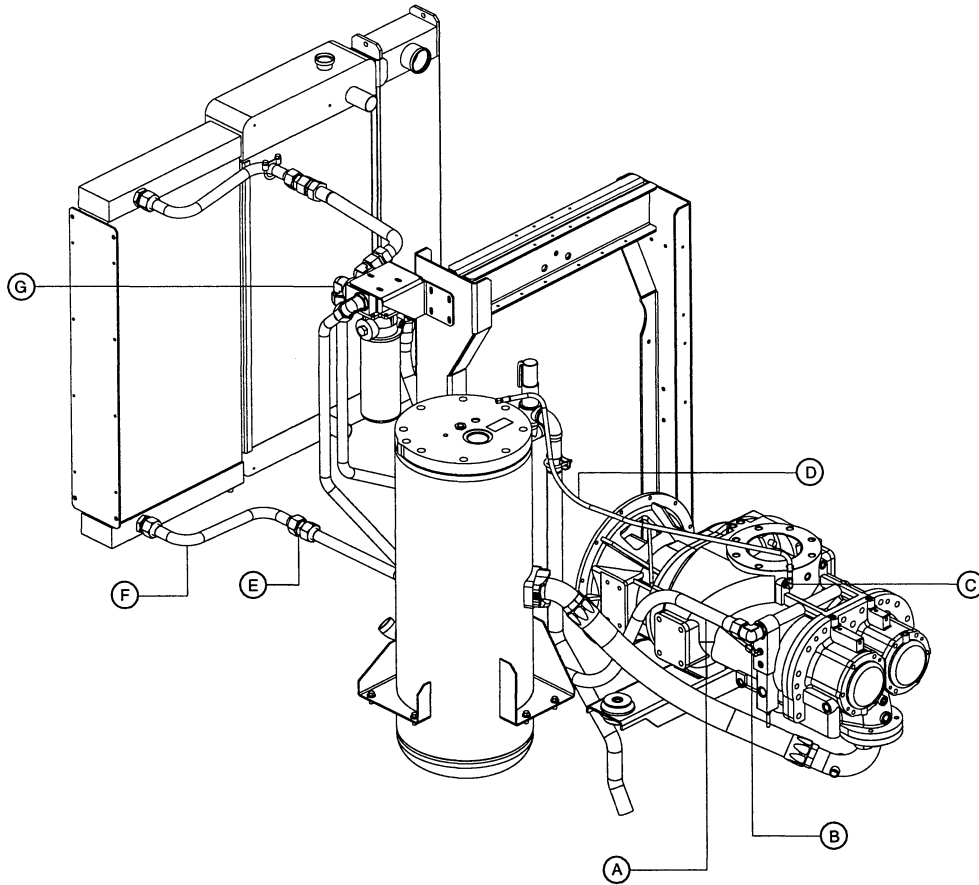
OIL PIPING



LEFT SIDE VIEW

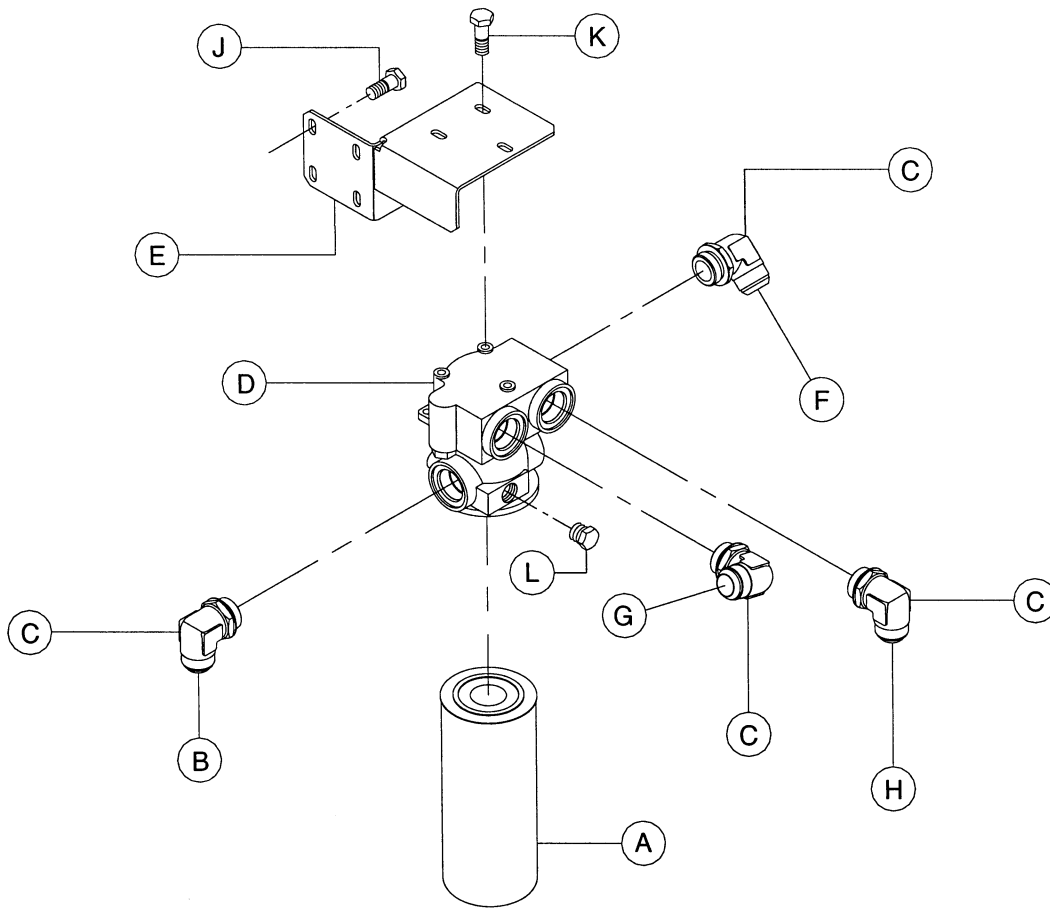


BOTTOM VIEW



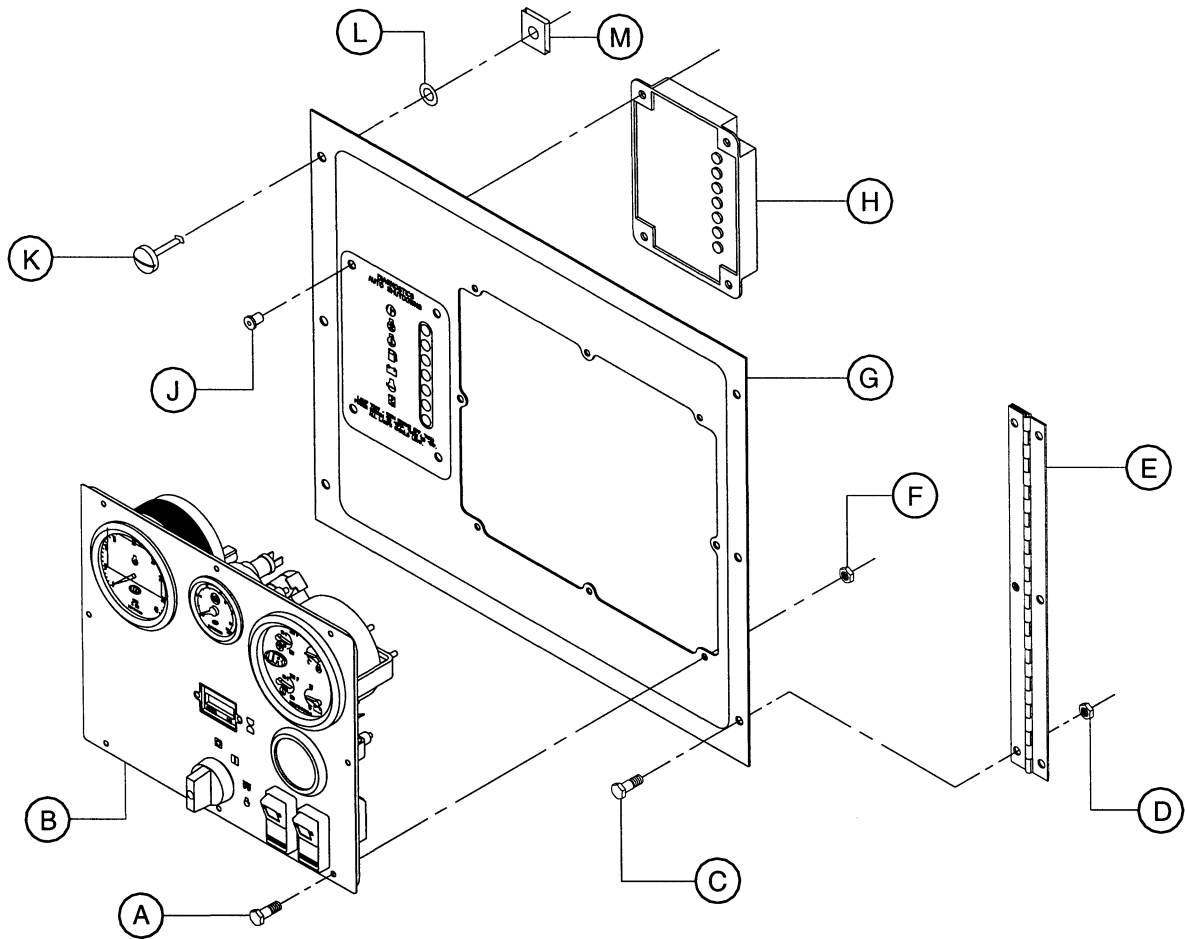
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22279772	1	HOSE ASSEMBLY	H	36866564	1	ELBOW
B	39476973	1	ELBOW	J	39911284	1	TUBE ASSEMBLY
C	95365094	1	ELBOW	K	95959730	1	ELBOW
D	35322494	1	HOSE ASSEMBLY	L	35279827	1	ELBOW
E	95469052	1	UNION	M	39911292	1	TUBE
F	22214779	1	TUBE ASSEMBLY	N	95974663	1	CONNECTOR
G	35279777	4	ELBOW				

COMPRESSOR OIL FILTER



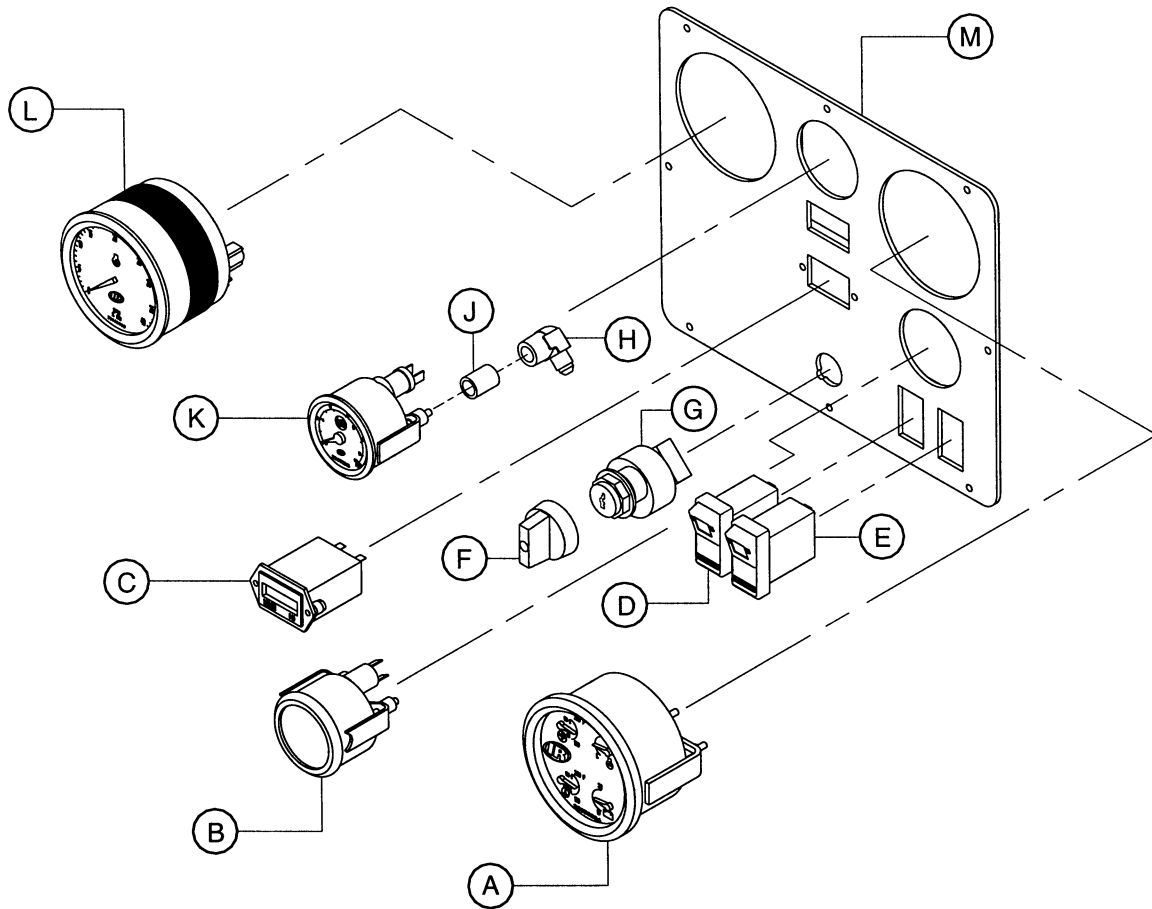
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	36897346	1	ELEMENT , FILTER				
B	TO AIR END						
C	35279777	4	ELBOW				
D	36871689	1	HEAD , OIL FILTER				
	35388024	1	RELEIF VALVE KIT (SPRING , BALL & PLUNGER)				
	35388032	1	THERMOSTAT (WITH O-RINGS)				
	35388040	1	O-RING KIT				
E	22213037	1	BRACKET				
F	TO BOTTOM OF SEPARATOR TANK						
G	TO TOP OF OIL COOLER						
H	TO BOTTOM OF OIL COOLER						
J	35279025	4	SCREW				
K	96701479	3	SCREW				
L	95938965	1	PLUG				

INSTRUMENT / CONTROL PANEL ASSEMBLY



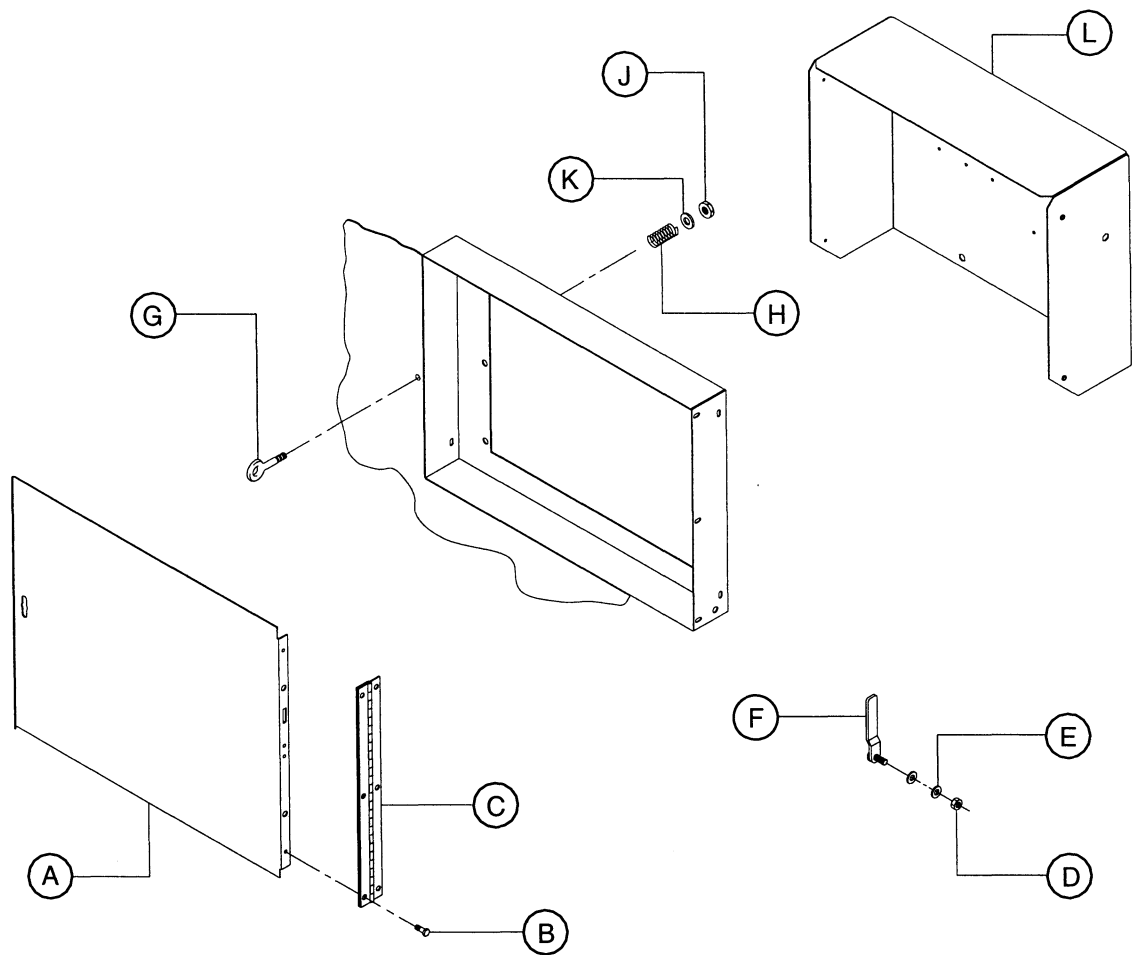
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	95942553	8	SCREW				
B	22298350	1	INSTRUMENT PANEL ASSEMBLY				
C	36898096	6	SCREW				
D	36898104	6	NUT				
E	36845725	1	HINGE				
F	95942637	8	NUT				
G	22299077	1	PANEL , MODULE INSTRUMENT				
H	36771434	1	MODULE , 7 LIGHT DIAGNOSTICS				
J	36775484	4	NUT , PLASTIC				
K	36844124	3	SCREW , 1/4 TURN				
L	35369180	3	RETAINER				
M	35314582	3	CLIP				

INSTRUMENT / CONTROL PANEL



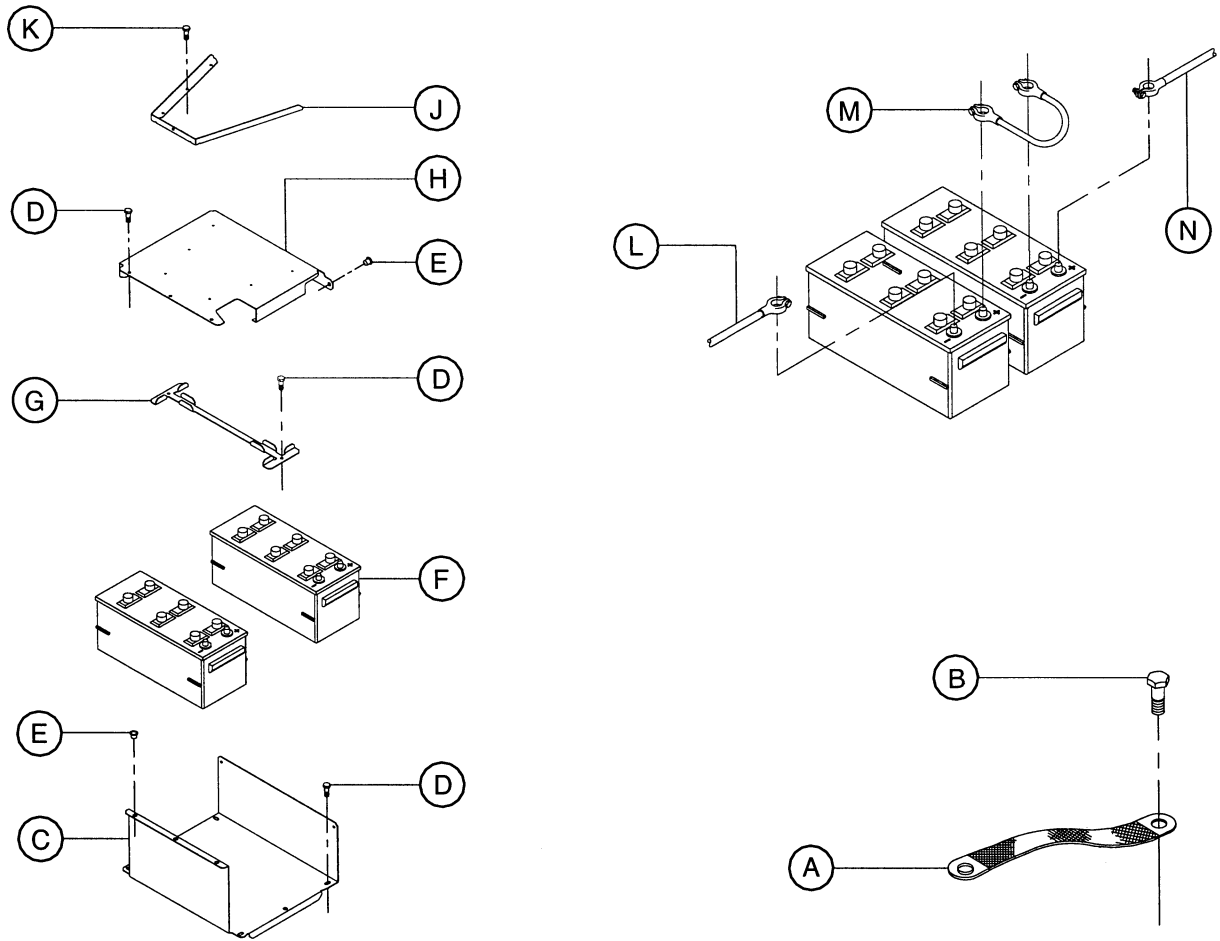
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22056394	1	GAGE , 4 IN 1				
B	22050991	1	GAGE , FUEL LEVEL				
C	22054175	1	METER , HOUR				
	22054159	2	NUT , PLASTIC				
D	22054092	1	SWITCH , WARM-UP				
E	22054068	1	SWITCH , ETHER				
F	22134118	1	KNOB ASSEMBLY				
G	22127385	1	SWITCH , START				
H	35306687	1	ELBOW				
J	95935599	1	COUPLING				
K	36891216	1	GAGE , 200 PSI PRESSURE				
L	22055883	1	TACHOMETER				
M	22171680	1	PANEL , INSTRUMENT				
—	22286348	1	PANEL HARNESS				

INSTRUMENT PANEL DOOR ASSEMBLY



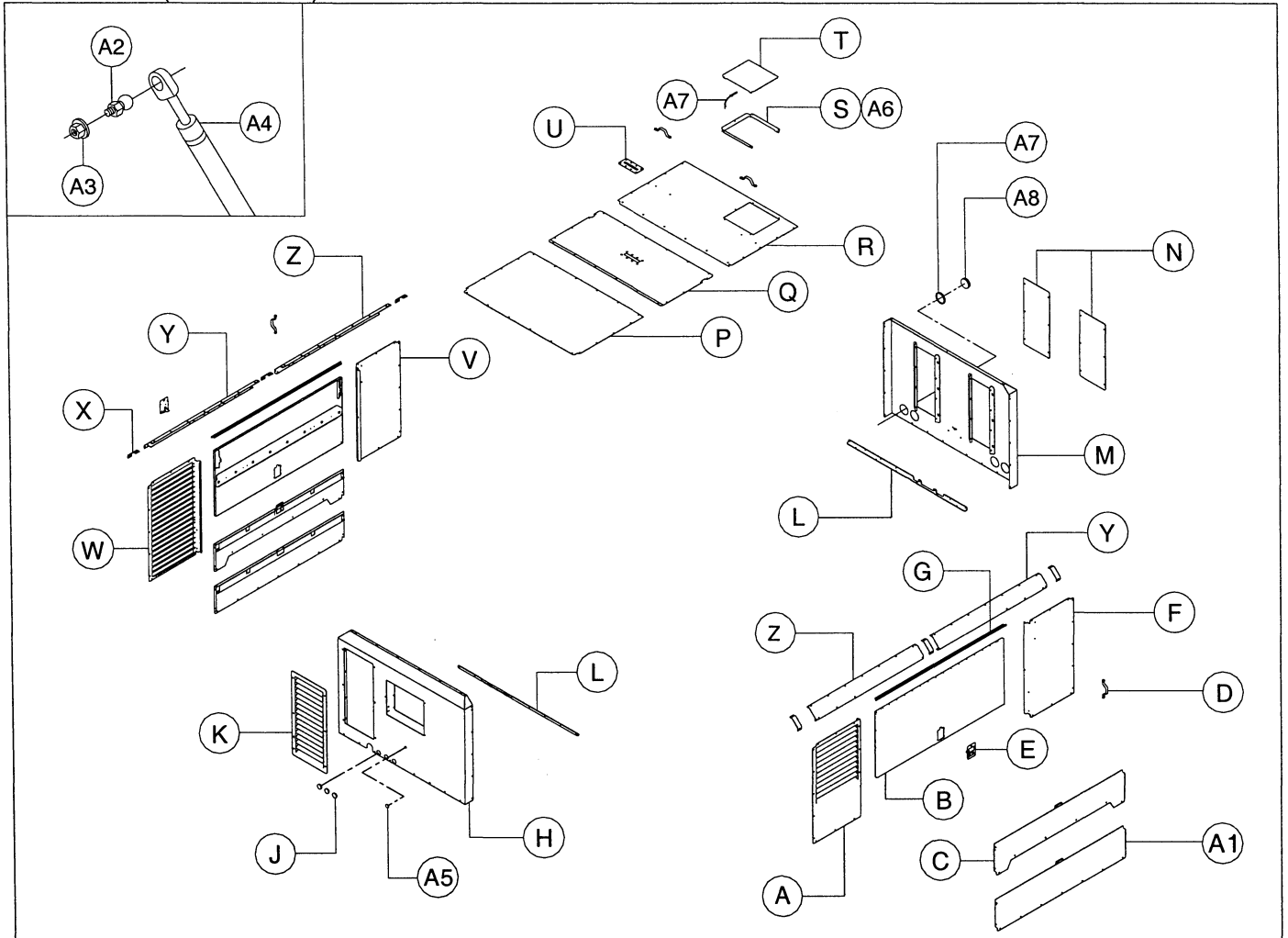
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22300230	1	DOOR , INSTRUMENT PANEL				
B	92368687	6	SCREW				
C	36845733	1	HINGE				
D	35273366	1	NUT				
E	95935037	2	WASHER				
F	35603349	1	STOP , DOOR				
G	35327303	1	EYEBOLT				
H	35327311	1	SPRING				
J	95923314	1	NUT				
K	95934998	1	WASHER				
L	22297865	1	BOX , INSTRUMENT PANEL				
	92368687	4	SCREW				

BATTERY AND MOUNTING



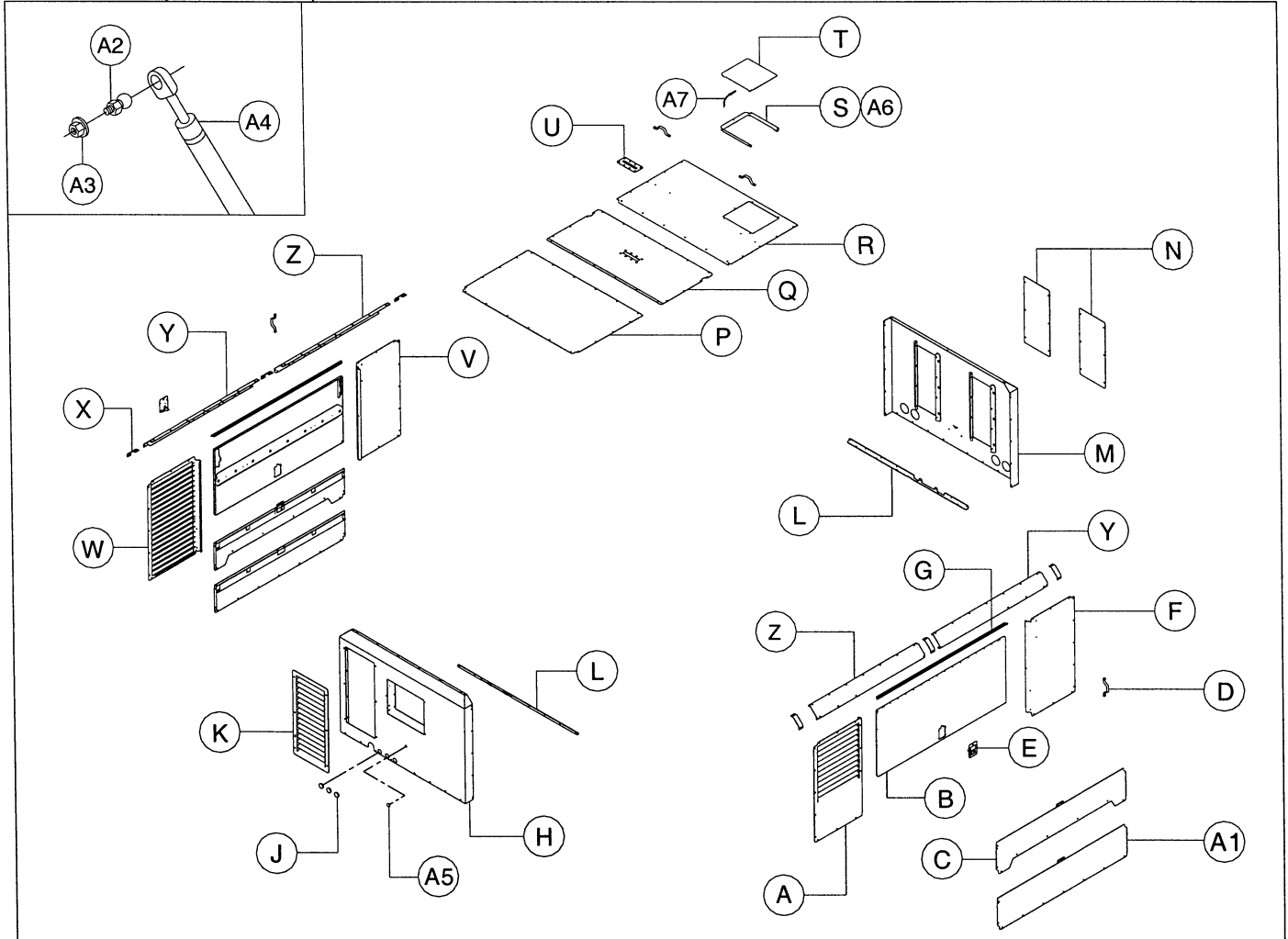
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35578194	1	14" STARTER TO ENG. GROUND STRAP				
	35293075	1	10" STARTER TO FRAME GROUND STRAP				
B	96719869	1	SCREW (TO ENGINE BLOCK)				
C	22252811	1	TRAY , BOTTOM BATTERY				
D	35279025	11	SCREW				
E	36895746	7	NUTSERT				
F	36793545	2	BATTERY				
G	22253892	1	SPACER , BATTERY				
H	22252829	1	TRAY , TOP				
J	22254981	1	BRACE , TOP TRAY				
K	36797652	6	SCREW				
L	36780609	1	CABLE , NEGATIVE				
M	35598986	1	CABLE , JUMPER				
N	35582410	1	CABLE , POSITIVE				

ENCLOSURE (EXTERNAL)



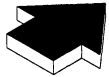
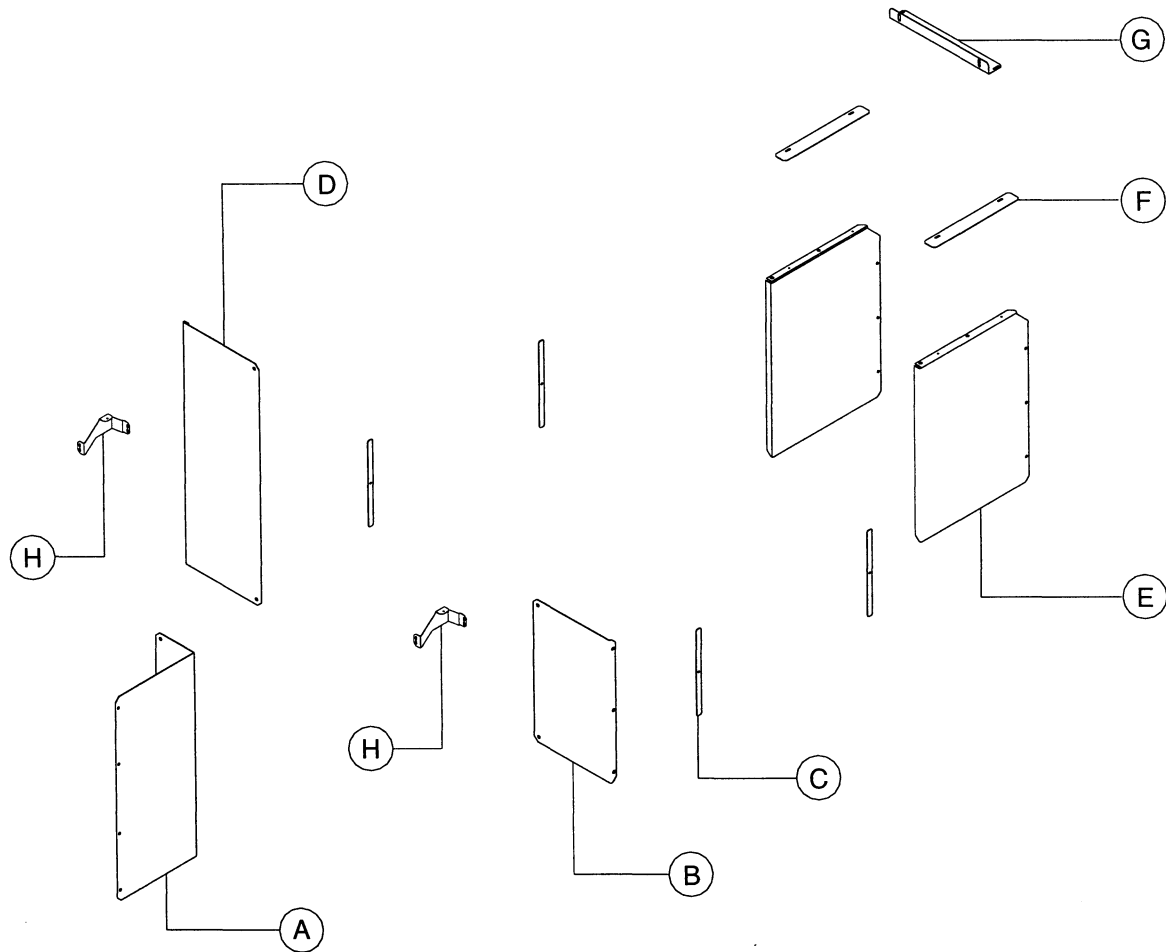
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22201578	1	GRILL , LEFT FRONT	V	22197495	1	PANEL , RIGHT REAR
B	22211163	2	DOOR , SIDE	W	22203681	1	GRILL , RIGHT FRONT
C	22208284	2	PANEL , HSRG ONLY	X	36755742	6	FILLER , SIDE RAIL
D	35130707	4	HANDLE	Y	22198188	2	RAIL , TOP SIDE
	96702659	8	SCREW	Z	22198444	2	RAIL , TOP SIDE
	36769743	8	NUT	A1	22244255	2	PANEL , STEER. ONLY
E	36793602	2	LATCH ASSEMBLY	A2	35337328	8	STUD
	36794816	8	RIVET	A3	36881886	8	NUT
F	22197818	1	PANEL , LEFT REAR	A4	36844355	4	SPRING , GAS
G	92912419	2	HINGE , DOOR	-	22068373	2	SEAL , DOOR
H	22202048	1	PANEL , FRONT END	-	36895746	-	NUTSERT
J	35310622	3	PLUGS , HOLE	-	35279025	-	SCREW , 8MM
K	22202063	1	GRILL , FRONT END	-	36797652	-	SCREW , 6MM
L	22207930	2	BRACE , END PANEL	A5	22312599	1	PLUG
M	22197479	1	PANEL , REAR END	A6	95934873	2	SCREW , SHOULDER
N	22300248	2	COVER , END PANEL		95935029	2	WASHER
P	22208300	1	PANEL , FRONT TOP		95931564	2	NUT
Q	22237564	1	PANEL , TOP MIDDLE	A7	35278720	1	PIN
R	22199020	1	PANEL , TOP REAR	A8	36787968	4	GROMMET (STEERABLE)
S	22243307	1	FRAME , DOOR	A9	36787349	4	REFLECTOR (STEERABLE)
T	22243273	1	DOOR				
U	22208946	1	COVER , LIFT BAIL				

ENCLOSURE (EXTERNAL) GALVANEAL



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22201578	1	GRILL , LEFT FRONT	S	22243299	1	FRAME , DOOR
B	22211171	2	DOOR , SIDE	T	22243281	1	DOOR
C	22208292	2	PANEL , HSRG ONLY	U	22208953	1	COVER , LIFT BAIL
D	35130707	4	HANDLE	V	22197503	1	PANEL , RIGHT REAR
	96702659	8	SCREW	W	22203681	1	GRILL , RIGHT FRONT
	36769743	8	NUT	X	36755742	6	FILLER , SIDE RAIL
E	36793602	2	LATCH ASSEMBLY	Y	22198196	2	RAIL , TOP SIDE
	36794816	8	RIVET	Z	22198451	2	RAIL , TOP SIDE
F	22197826	1	PANEL , LEFT REAR	A1	22244636	2	PANEL , STEER. ONLY
G	92912419	2	HINGE , DOOR	A2	35337328	8	STUD
H	22202055	1	PANEL , FRONT END	A3	36881886	8	NUT
J	35310622	3	PLUGS , HOLE	A4	36844355	4	SPRING , GAS
K	22202063	1	GRILL , FRONT END	-	22068373	2	SEAL , DOOR
L	22207930	2	BRACE , END PANEL	-	36895746	-	NUTSERT
M	22197487	1	PANEL , REAR END	-	35279025	-	SCREW , 8MM
N	22300644	2	COVER , END PANEL	-	36797652	-	SCREW , 6MM
P	22208318	1	PANEL , FRONT TOP	-	54413117	2	DECAL , GALVANEAL
Q	22237557	1	PANEL , TOP MIDDLE	A5	22312599	1	PLUG
R	22199038	1	PANEL , TOP REAR	A6	95934873	2	SCREW , SHOULDER
					95935029	2	WASHER
					95931564	2	NUT
				A7	35278720	1	PIN

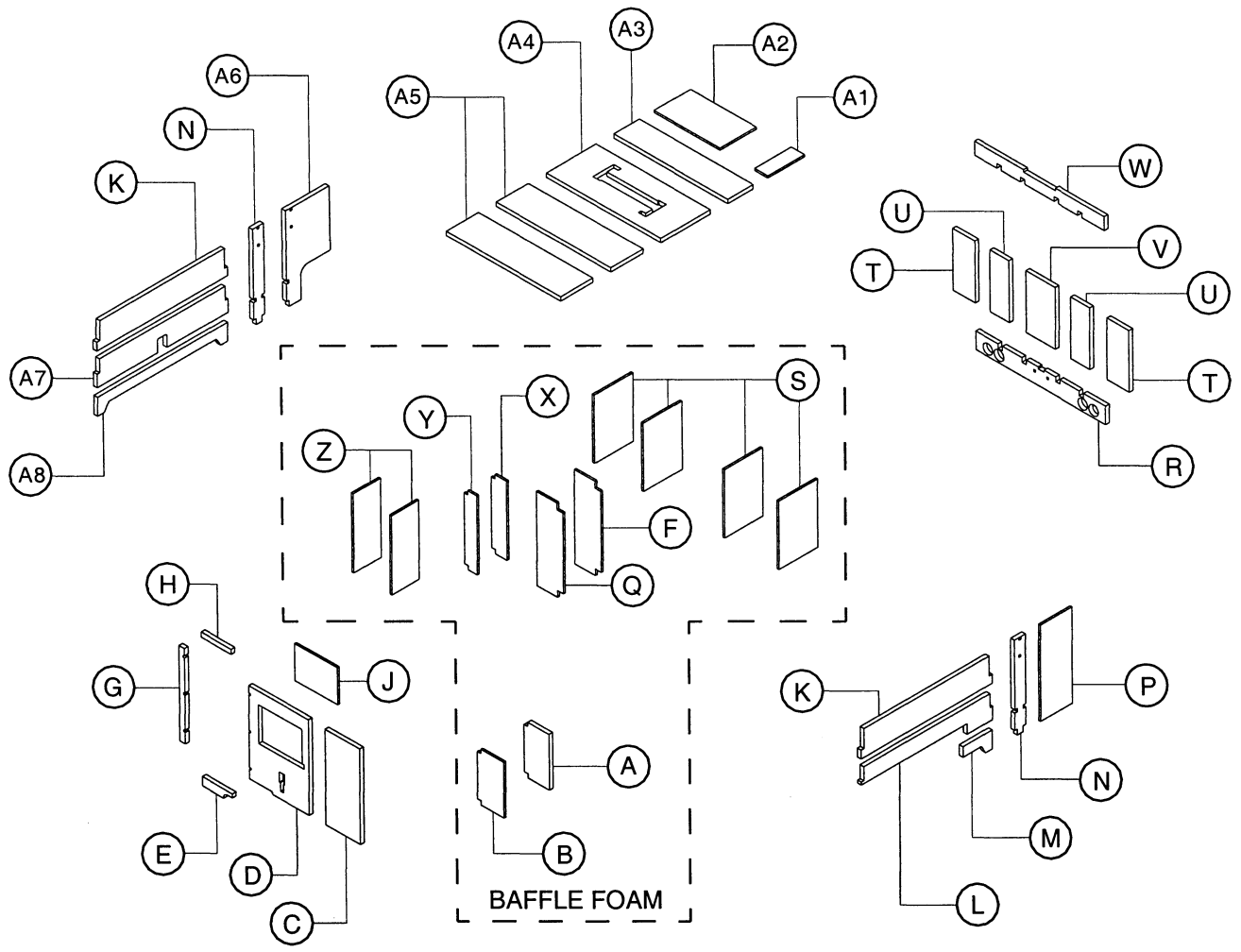
ENCLOSURE BAFFLES



FRONT

ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22301089	1	BAFFLE , FRONT AIR INTAKE				
B	22301097	1	BAFFLE , LEFT FRONT AIR INTAKE				
C	54718184	15	STRAP , FOAM RETENTION (DOORS AND ROOF)				
	54519202	15	SCREW				
D	22301048	1	BAFFLE , RIGHT FRONT AIR INTAKE				
E	22301105	2	BAFFLE , EXHAUST				
F	22301717	2	PLATE , BAFFLE				
G	22301113	1	BRACKET , BAFFLE				
—	36895746	—	NUTSERT				
—	35279025	—	SCREW , 8MM				
—	36797652	—	SCREW , 6MM				
H	22336184	2	BRACKET , INTAKE BAFFLE				

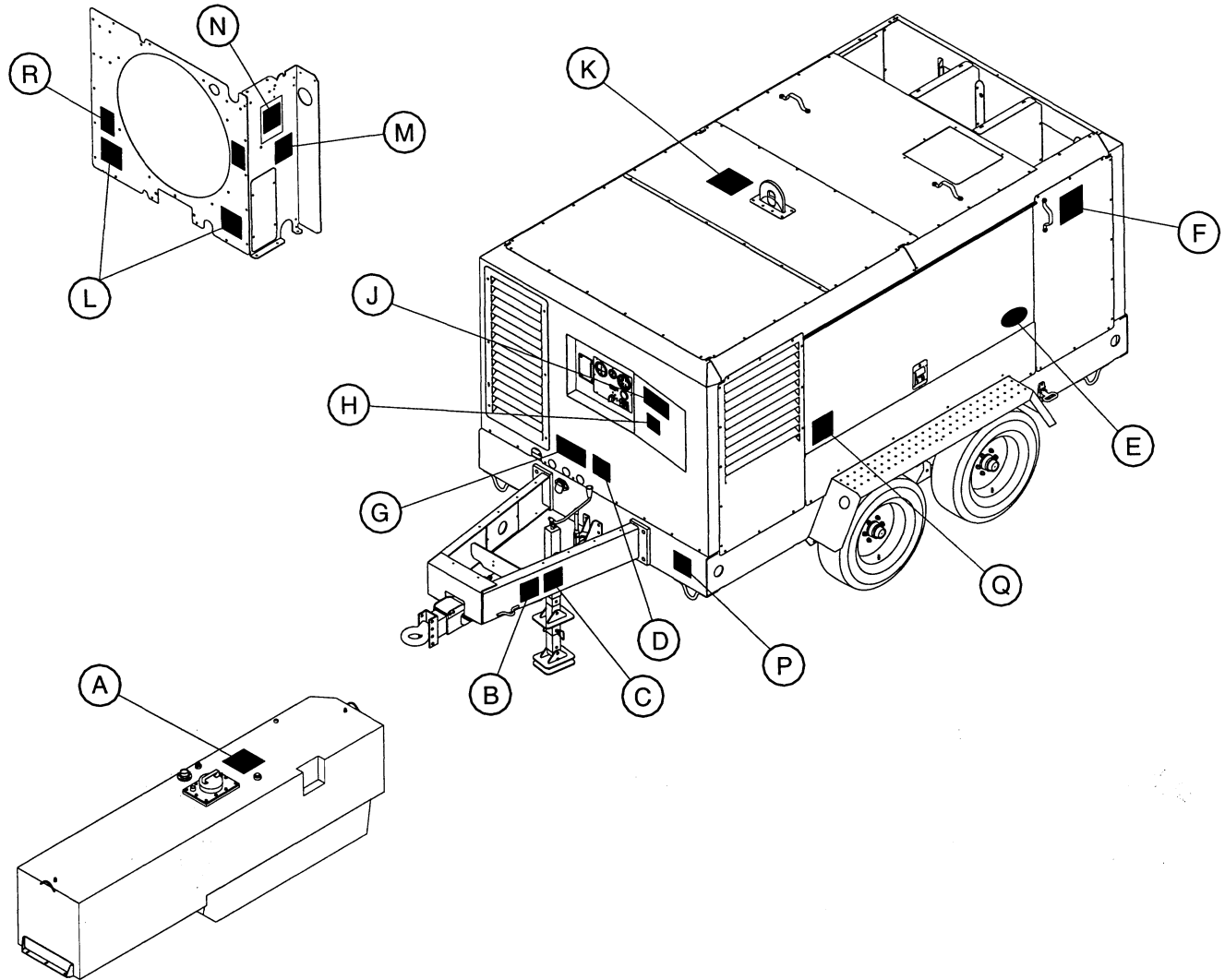
ACOUSTIC FOAM



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22305544	1	FOAM , FRONT	X	22306096	1	FOAM , BAFFLE
B	22306062	1	FOAM , FRONT	Y	22306104	1	FOAM , BAFFLE
C	22305536	1	FOAM , FRONT	Z	22306088	2	FOAM , BAFFLE
D	22252274	1	FOAM , FRONT	A1	22252225	1	FOAM , TOP
E	22252282	1	FOAM , FRONT	A2	22252217	1	FOAM , TOP
F	22306112	1	FOAM , BAFFLE	A3	22252241	1	FOAM , TOP
G	22252308	1	FOAM , FRONT	A4	22252233	1	FOAM , TOP
H	22252290	1	FOAM , FRONT	A5	22252258	2	FOAM , TOP
J	22305569	1	FOAM , INST. PANEL	A6	22252399	1	FOAM , RIGHT SIDE
K	22252191	2	FOAM , DOOR	A7	22252209	1	FOAM , RIGHT DOOR
L	22255707	1	FOAM , LEFT DOOR	A8	22252381	1	FOAM , RIGHT SIDE
M	22252373	1	FOAM , LEFT SIDE				
N	22305973	1	FOAM , LEFT SIDE				
P	22252365	1	FIBERGLASS , LEFT SIDE				
Q	22306120	1	FOAM , BAFFLE				
R	22252340	1	FOAM , REAR				
S	22305551	4	FOAM , BAFFLE				
T	22252316	2	FOAM ,REAR				
U	22305528	2	FOAM , REAR				
V	22252324	1	FOAM , REAR				
W	22252357	1	FOAM , REAR				

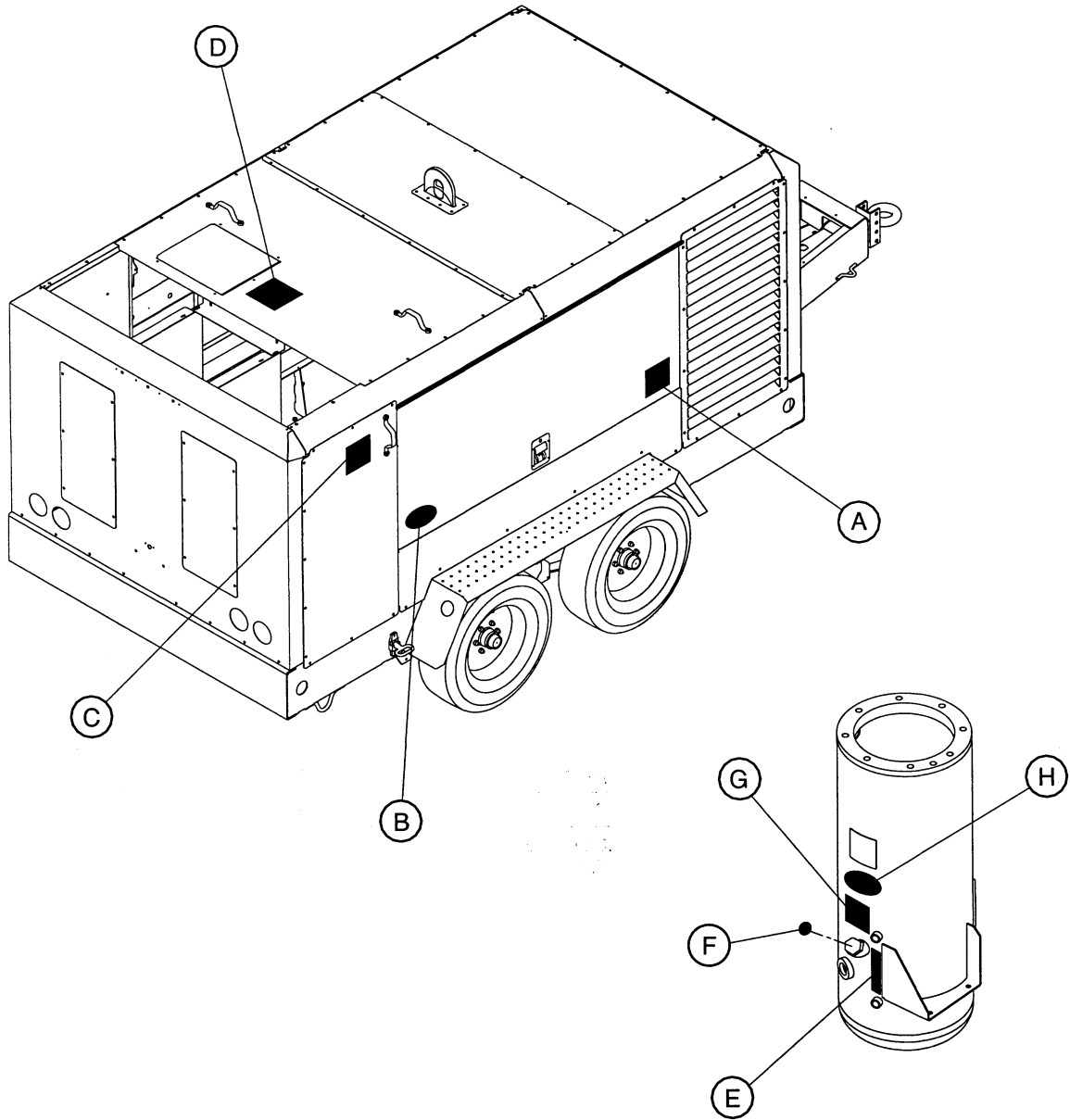
NOTE:
HIGH AMBIENT UNITS REQUIRE ITEM " N " ONLY. (2 REQD.)

DECAL LOCATION

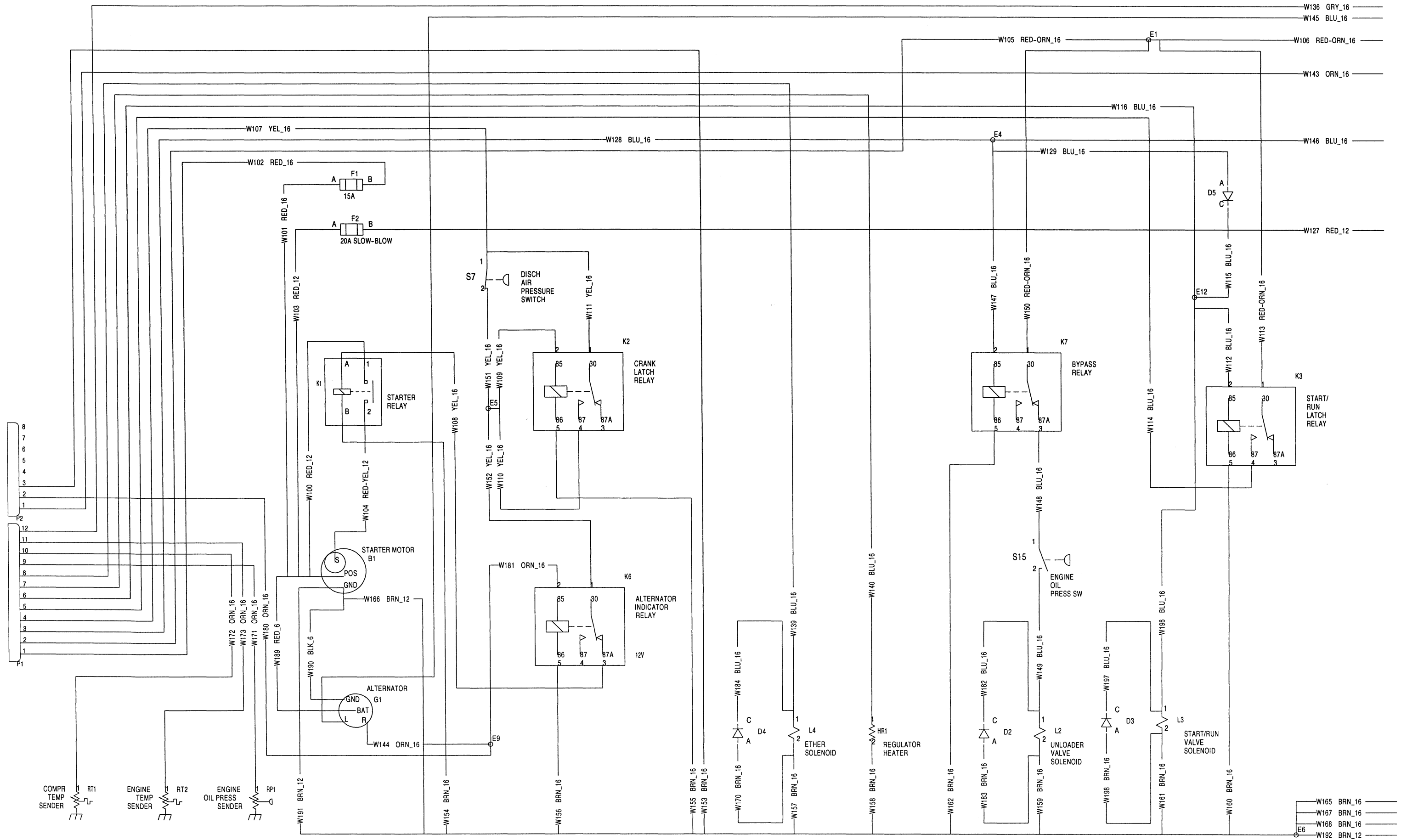


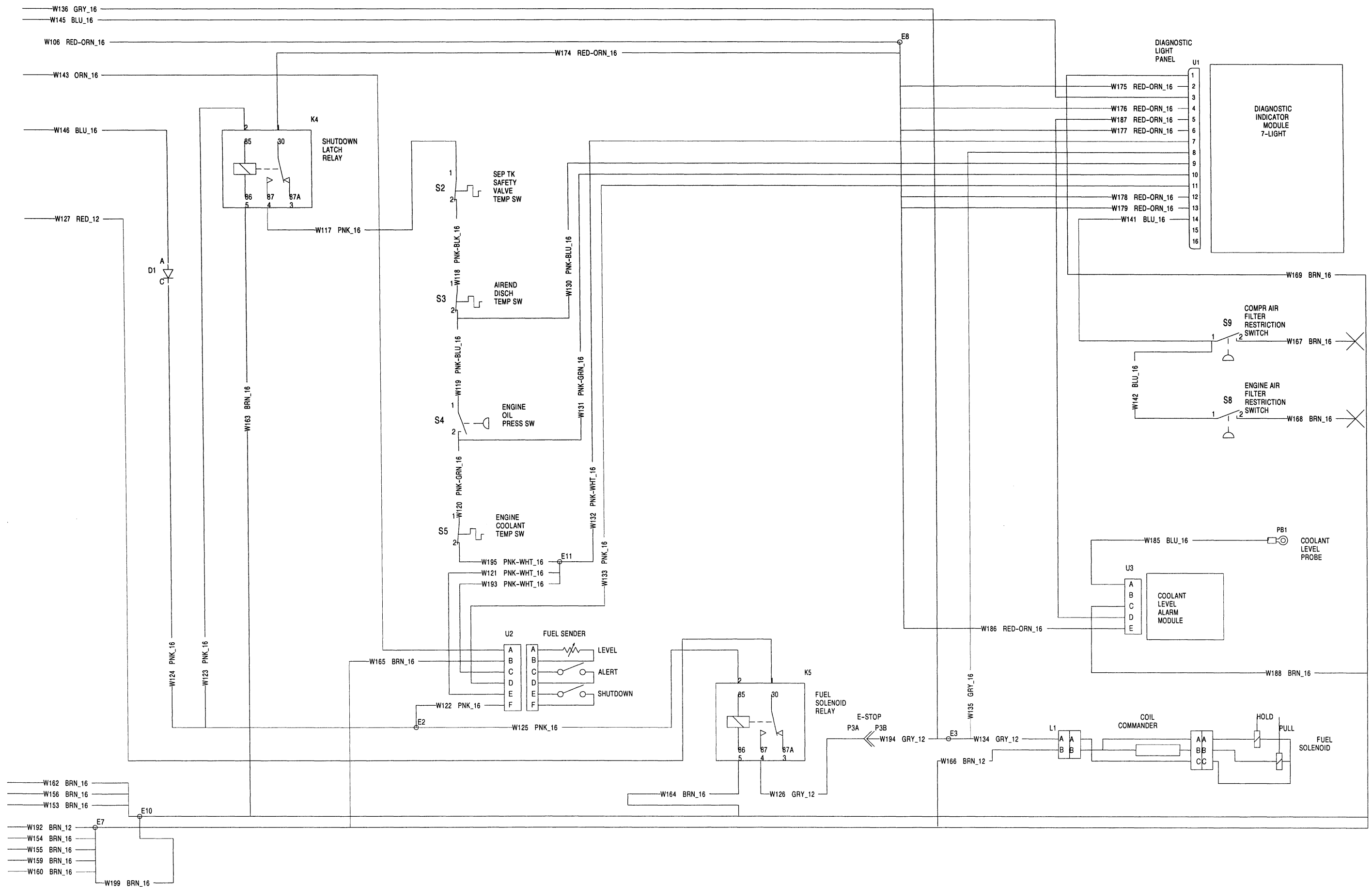
ITEM	CPN	QTY.	DESCRIPTION
A	54625207	1	DIESEL FUEL DECAL
B	54604921	1	TOWING SPEED DECAL
C	54568803	1	COLLAPSING JACK DECAL
D	36514602	1	NOISE EMISSION DECAL
E	54640024	1	GENUINE PARTS DECAL
	54640024	1	GENUINE PARTS DECAL (LOCATE ON FRONT OF INSTRUMENT PANEL DOOR)
F	22298343	1	FALL OFF UNIT DECAL
G	54629902	1	3 - PART WARNING DECAL
H	54568787	1	IMPROPER OPERATION DECAL
J	22056378	1	OPERATING INSTRUCTIONS DECAL
K	54699400	1	LIFTING POINT DECAL
L	54568779	2	ROTATING FAN DECAL
M	36529691	2	CLEAN COOLERS DECAL (BOTH SIDES)
N	22334916	1	HOT SURFACE DECAL
P	36531176	1	VIN DECAL
	36533081	1	OVERLAY
Q	54413117	1	GALVANEAL DECAL (GALVANEAL OPTION)
R	54568753	1	BATTERY GAS DECAL

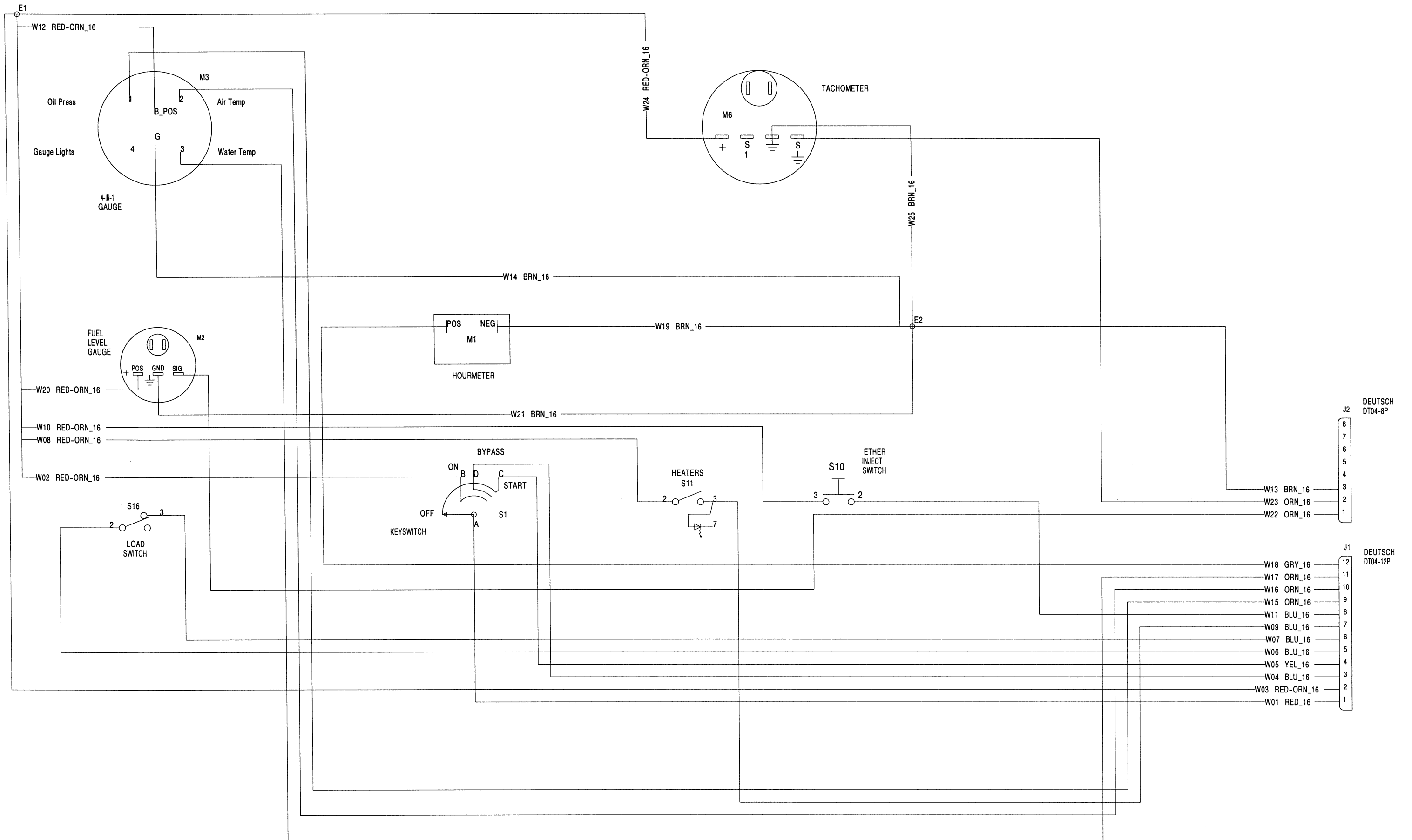
DECAL LOCATION



ITEM	CPN	QTY.	DESCRIPTION
A	54413177	1	GALVANEAL DECAL (GALVANEAL OPTION)
B	54640024	1	GENUINE PARTS DECAL
C	22298343	1	FALL OFF UNIT DECAL
D	54568761	1	HOT PRESSURIZED FLUID DECAL
E	22383319	1	OIL LEVEL DECAL
F	54604970	1	OIL FILL PLUG DECAL
G	54568795	1	HIGH PRESSURE AIR DECAL
H	54640164	1	AIR END WARRANTY DECAL







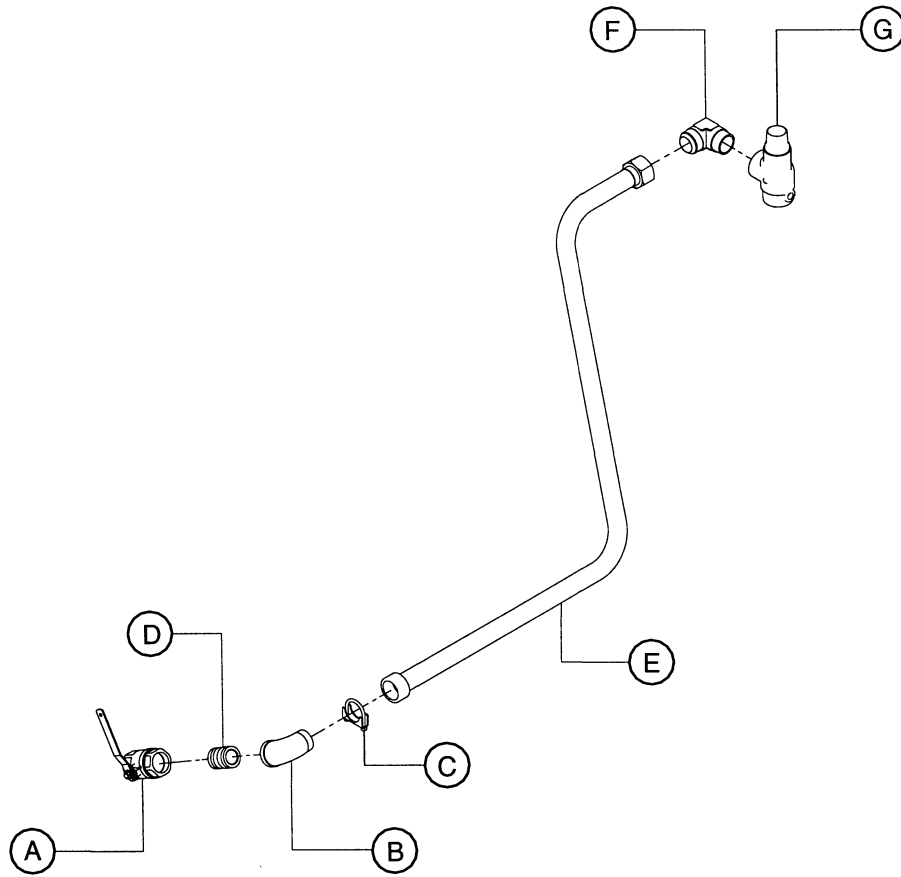
ELECTRICAL PARTS LIST

DESCRIPTION	PART NO.	DESIGNATION
INSTRUMENT PANEL		
4-IN-1 GAGE	22056394	M3
TACHOMETER	22055883	M6
FUEL LEVEL GAGE	22050991	M2
HOURLMETER	22054175	M1
LOAD SWITCH	22054092	S16
KEY SWITCH	22127385	S1
HEATERS	N / A	S11
ETHER INJECTION SWITCH	22054068	S10
INSTRUMENT PANEL HARNESS	22286348	N / A
ENGINE HARNESS		
DIAGNOSTIC LIGHT PANEL	36771434	U1
STARTER RELAY	35577873	K1
ALTERNATOR INDICATOR RELAY	36878361	K6
CRANK LATCH RELAY	36892362	K2
START / RUN LATCH RELAY	36892362	K3
SHUTDOWN LATCH RELAY	36892362	K4
FUEL SOLENOID RELAY	36892362	K5
BYPASS RELAY	36892362	K7
COOLANT LEVEL ALARM MODULE	36892370	U3
AIR END DISCHARGE TEMP. SWITCH	36865756	S3
COMPRESSOR TEMP. SENDER	35604180	RT1
ENGINE OIL PRESSURE SWITCH	36843423	S15
ENGINE OIL PRESSURE SWITCH	36757581	S4
ENGINE COOLANT TEMP. SWITCH	35327691	S5
ENGINE OIL PRESSURE SENDER	36870608	RP1
ENGINE TEMP. SENDER	35604180	RT2
COIL COMMANDER	22299127	L1
SEP. TANK SAFETY VALVE TEMP. SW.	36865756	S2
COOLANT LEVEL PROBE	35356799	PB1
ENGINE AIR FILTER RESTRICTION SW.	36847838	S8
COMPR. AIR FILTER RESTRICTION SW.	36847838	S9
CUMMINS ENGINE HARNESS	22286330	N / A
FUEL SENDER	22155451	U2
EMERGENCY STOP SWITCH	22162549	P3A , P3B (OPTION)
DIODE	35376169	D1
DIODE	35376169	D2
DIODE	35376169	D3
DIODE	35376169	D4
DIODE	35376169	D5
DISCHARGE AIR PRESSURE SW.	36757573	S7
REGULATOR HEATER	N / A	HR1
UNLOADER VALVE SOLENOID	36881944	L2
START / RUN VALVE SOLENOID	36840841	L3
ETHER SOLENOID	35357052	L4
STARTER MOTOR	22345755	B1
ALTERNATOR	22178115	G1

OPTIONS

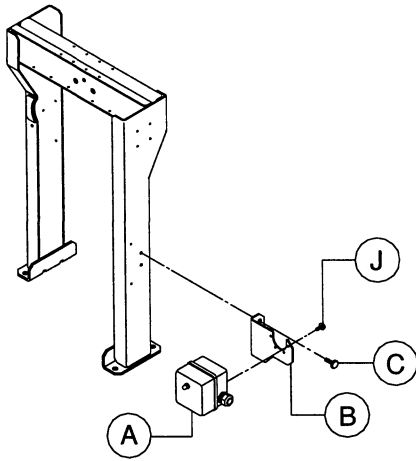
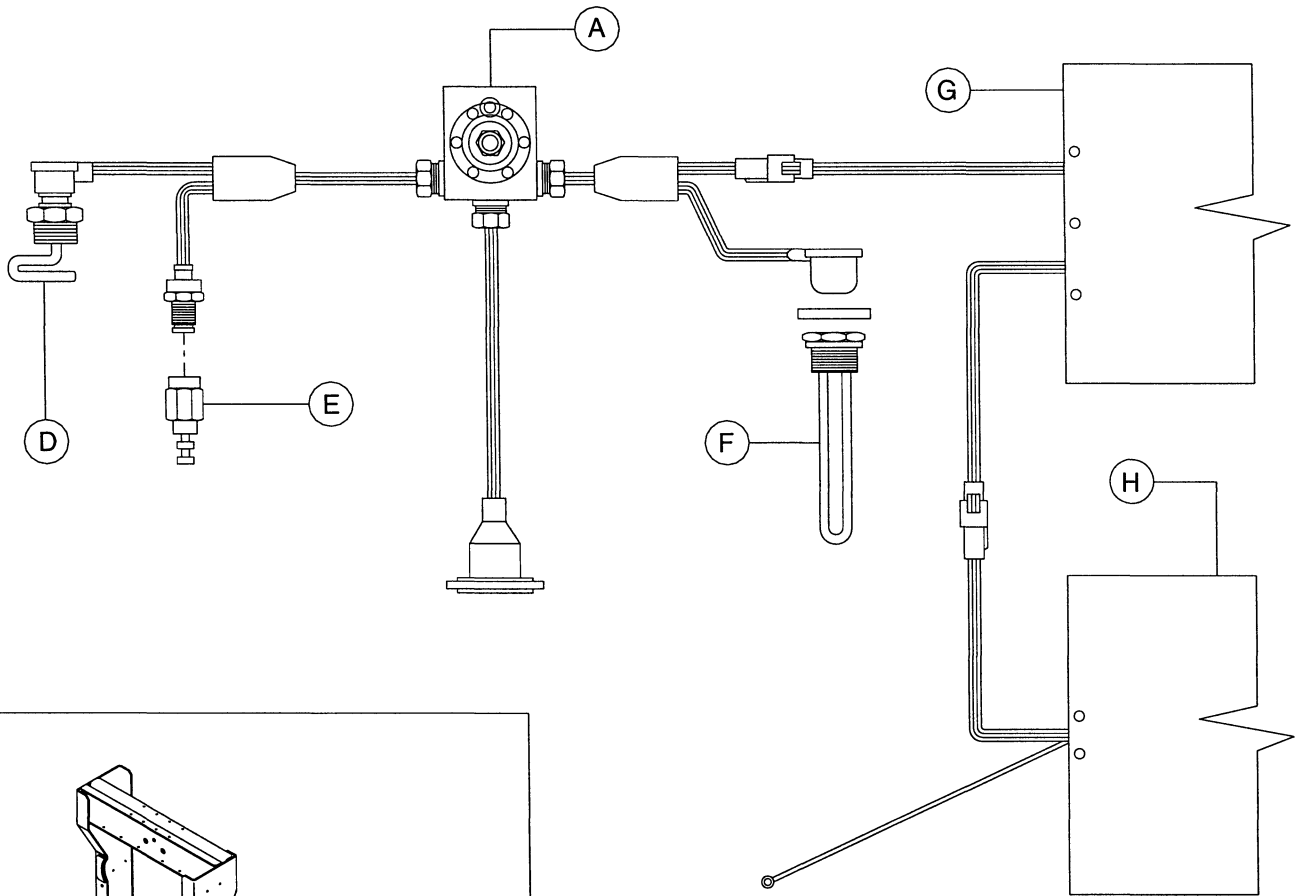
STARTER AID (AC KIT)
SERVICE MANIFOLD
IQ COOLER AND PIPING
AFTERCOOLER AND PIPING
CENTRAL DRAINS
SECURE LIFT BAIL

SERVICE PIPING (ONE 2" BSP VALVE)



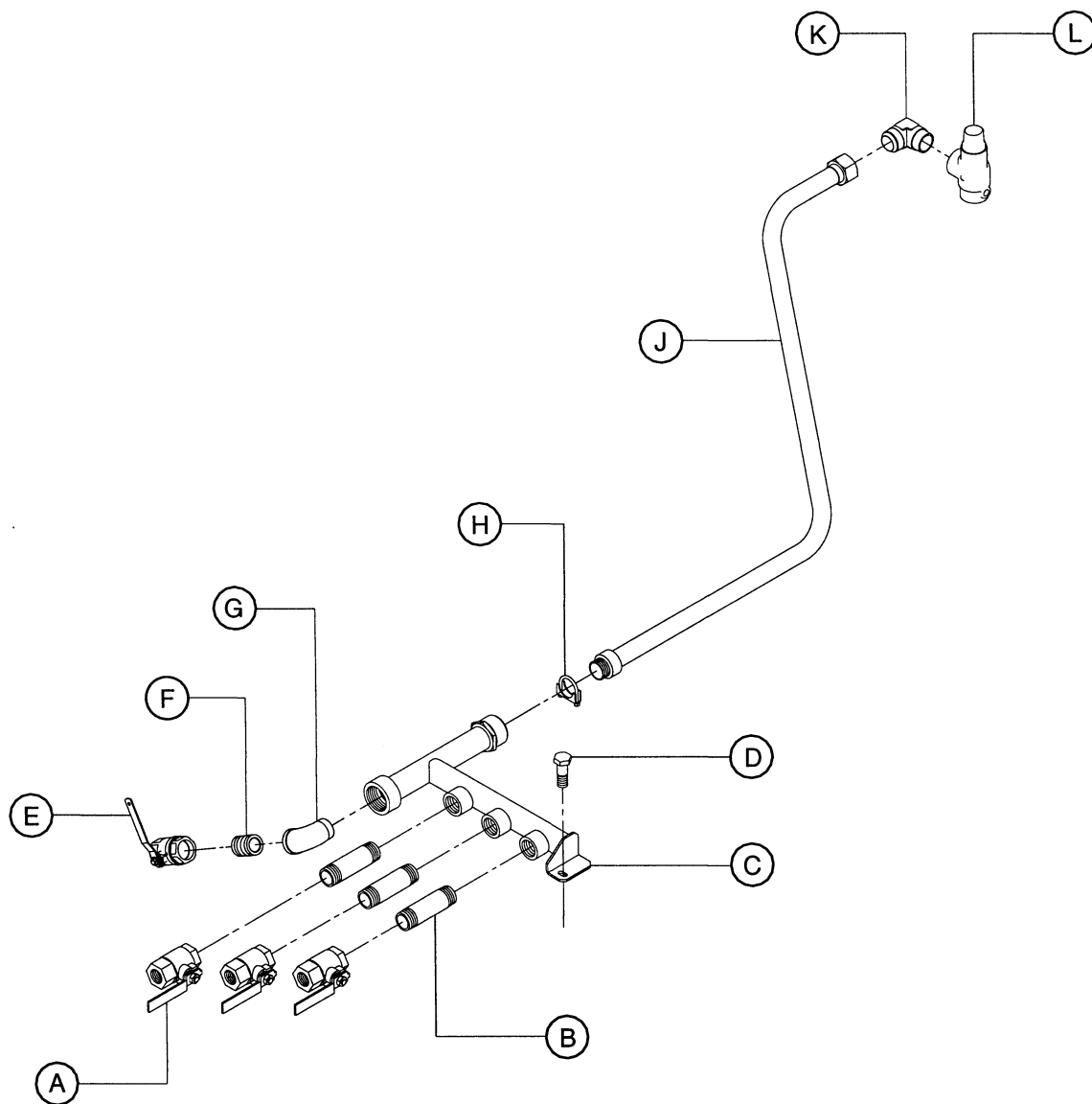
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	92530047	1	VALVE , BALL				
B	95944674	1	ELBOW				
C	35192178	1	CLAMP , SADDLE				
D	22208334	1	ADAPTOR				
E	22223846	1	PIPE , SERVICE				
F	36786127	1	ELBOW				
G	22217848	1	VALVE , MINIMUM PRESSURE				

STARTER AID (AC KIT)



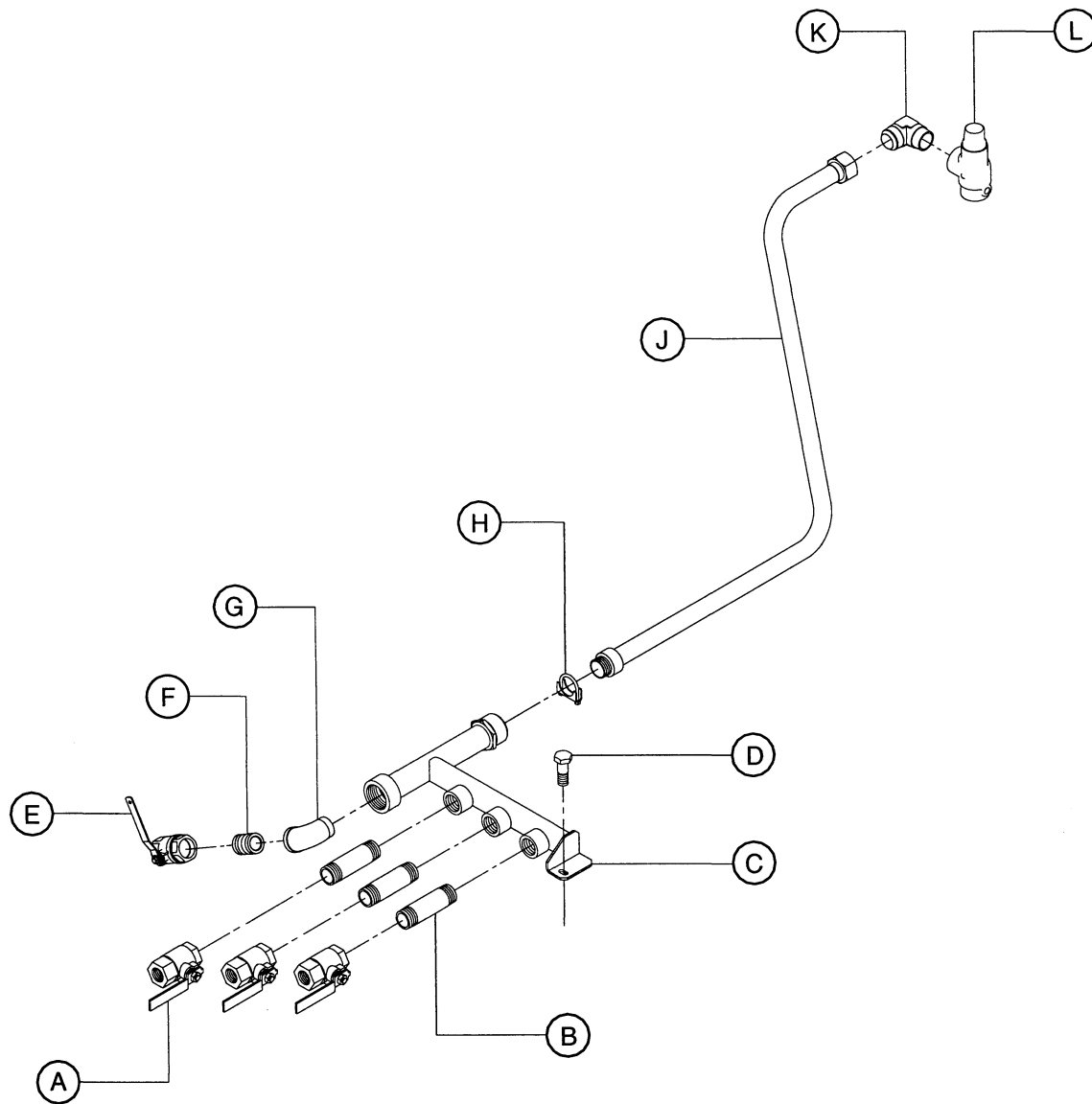
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22298541	1	PRESSURE SWITCH AND HARNESS				
B	22360242	1	BRACKET				
C	35279025	2	SCREW				
D	22298558	1	HEATER , ENGINE BLOCK				
E	22298566	1	PLUG , THERMOSTAT				
F	36874675	1	HEATER , OIL PAN				
G	36920338	1	HEATER , BATTERY				
H	36920346	1	HEATER , BATTERY				
-	22298533	1	COLD START ASSEMBLY (INCLUDES ITEMS A, D, E, F, G AND H.)				
J	95942553	4	SCREW				

SERVICE MANIFOLD PIPING (NPT)



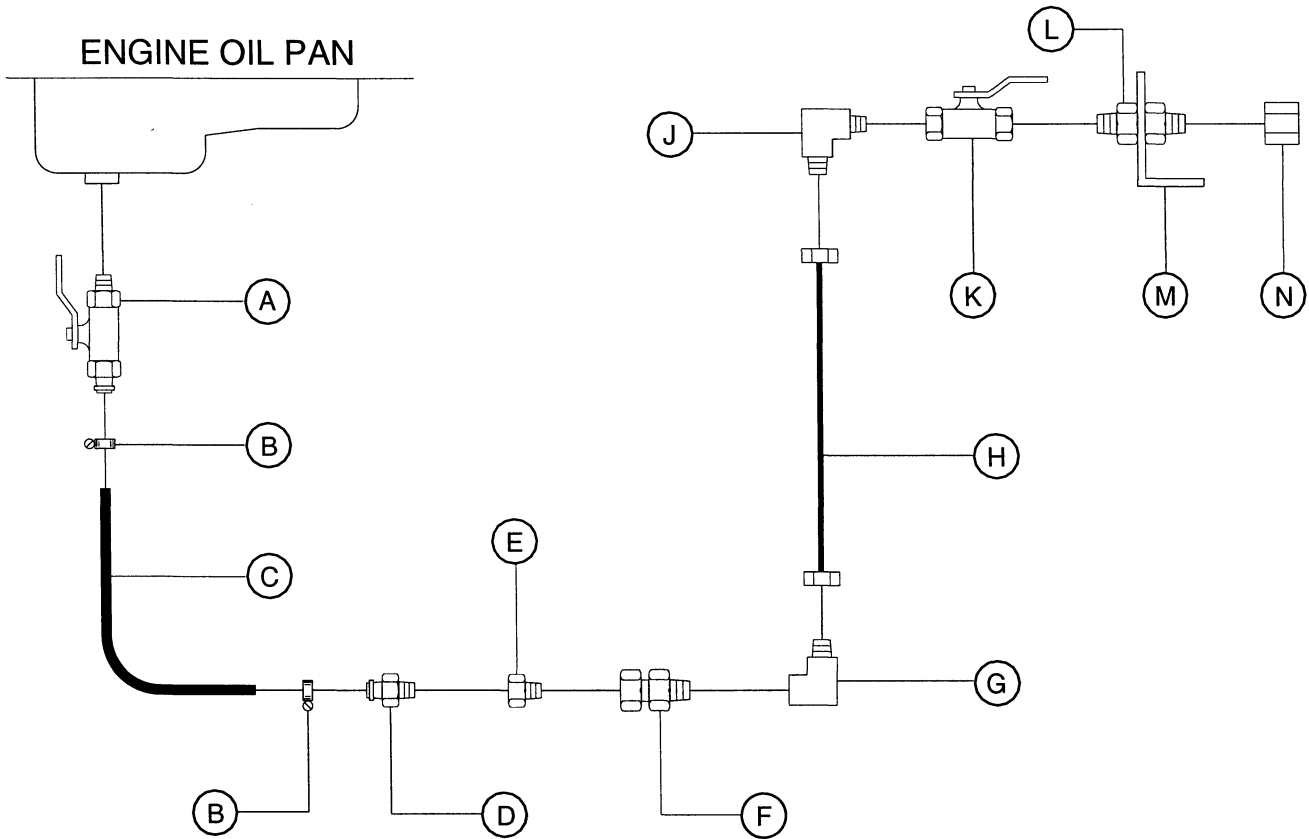
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35612126	3	VALVE , BALL				
B	95953519	3	NIPPLE				
C	22224232	1	MANIFOLD , SERVICE AIR				
D	35279025	1	SCREW				
E	35602473	1	VALVE , BALL				
F	95097291	1	NIPPLE				
G	95944674	1	ELBOW				
H	35192178	1	CLAMP , SADDLE				
J	22354815	1	PIPE , SERVICE				
K	36786127	1	ELBOW				
L	22217848	1	VALVE , MINIMUM PRESSURE				

SERVICE MANIFOLD PIPING (METRIC)



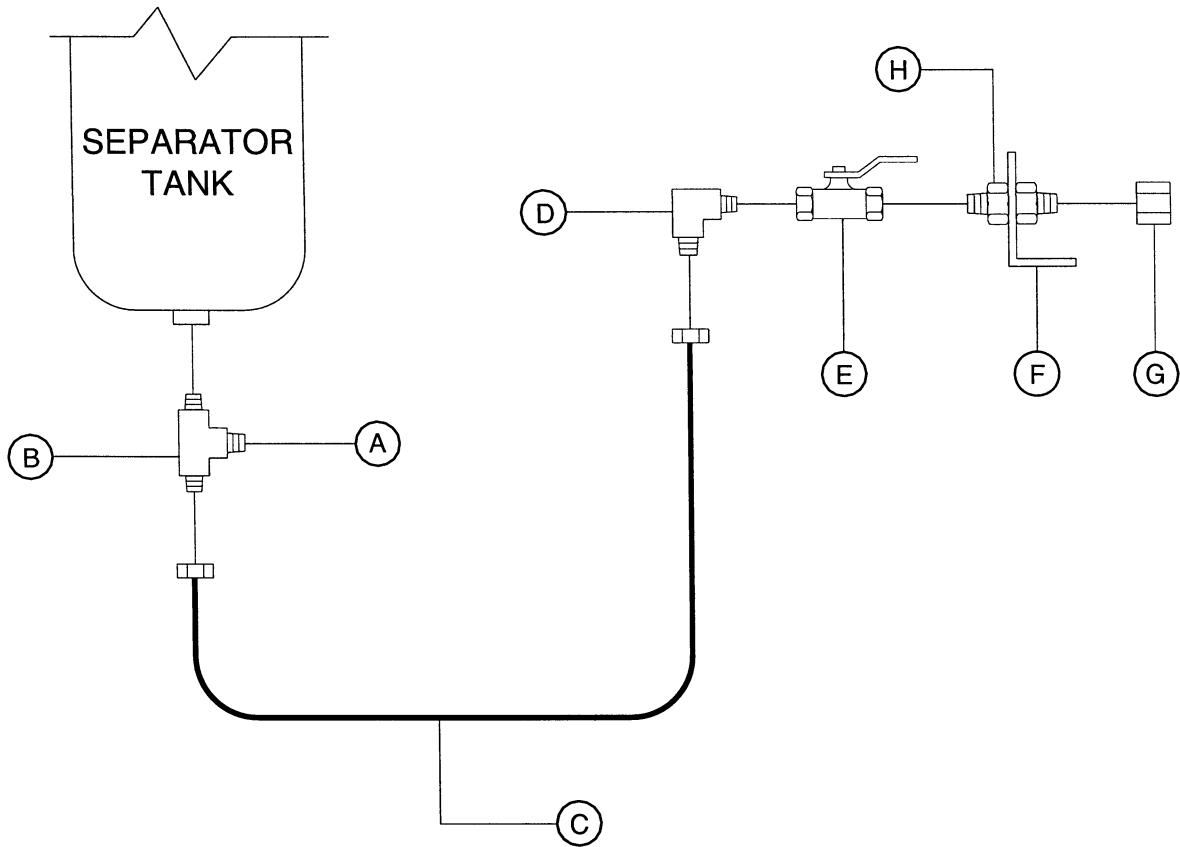
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	92111228	3	VALVE , BALL				
B	92076454	3	NIPPLE				
C	22224232	1	MANIFOLD , SERVICE AIR				
D	35279025	1	SCREW				
E	92530047	1	VALVE , BALL				
F	22208334	1	ADAPTOR				
G	95944674	1	ELBOW				
H	35192178	1	CLAMP , SADDLE				
J	22354815	1	PIPE , SERVICE				
K	36786127	1	ELBOW				
L	22217848	1	VALVE , MINIMUM PRESSURE				

ENGINE OIL DRAIN PIPING



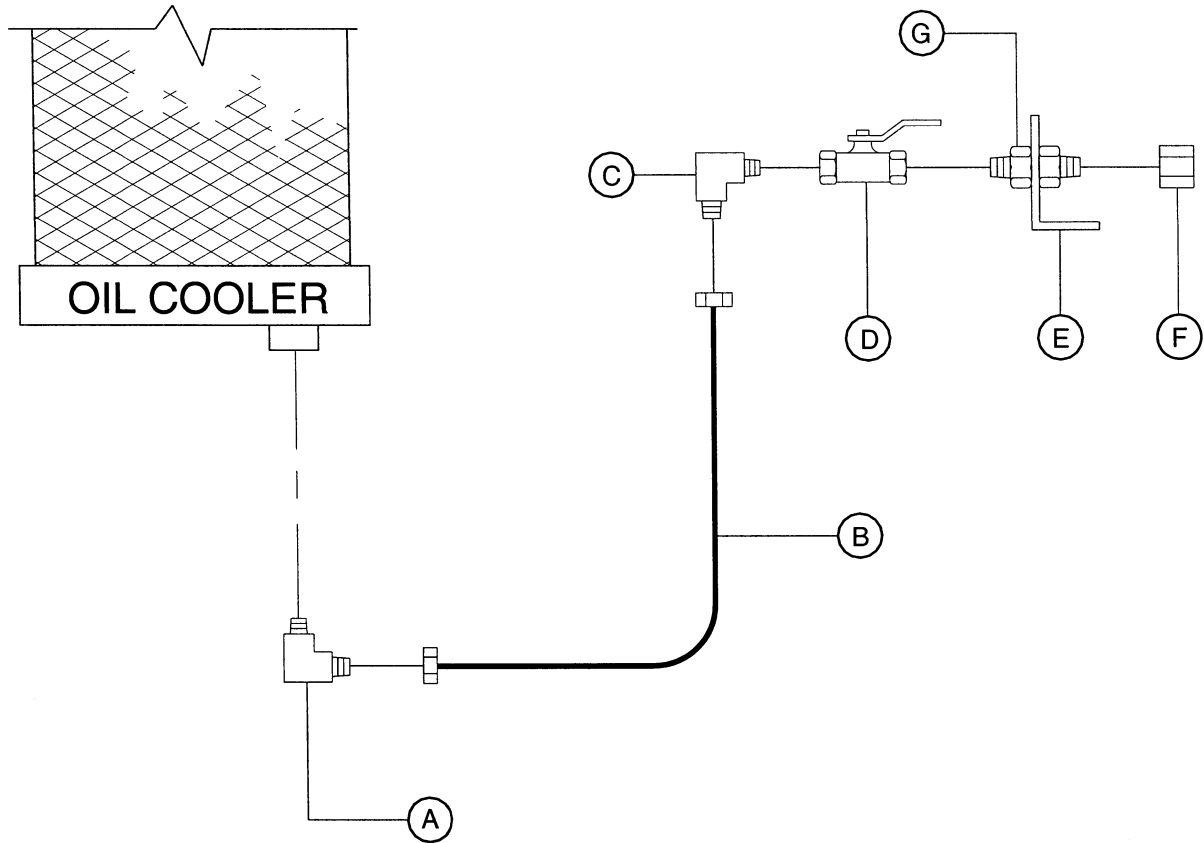
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	22363584	1	VALVE , BALL				
B	95220844	2	CLAMP , HOSE				
C	35326578	1	HOSE (22 INCHES)				
D	35326560	1	ADAPTER				
E	95953949	1	BUSHING				
F	35287747	1	FITTING , BULKHEAD				
G	35301506	1	ELBOW				
H	35376110	1	HOSE ASSEMBLY				
J	35294735	1	ELBOW				
K	36777399	1	VALVE , BALL				
L	35321173	1	FITTING , BULKHEAD				
M	22138515	1	BRACKET , CENTRAL DRAINS				
N	35608694	1	CAP				

SEPARATOR TANK DRAIN



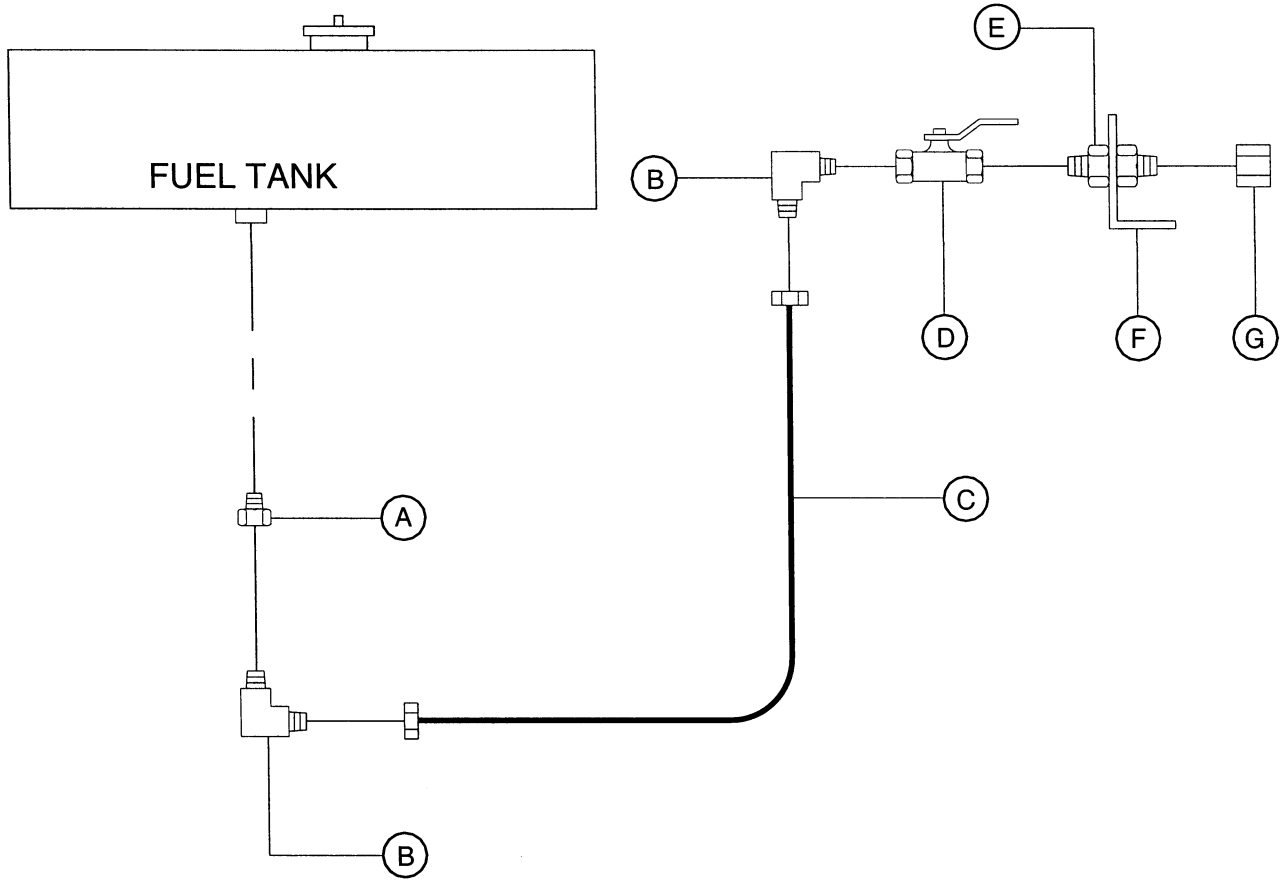
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A			TO OIL TEMP. BY-PASS VALVE				
B	XXXXXXX	1	TEE (HSRG ONLY)				
	35295880	1	CONNECTOR (ALL UNITS EXCEPT HSRG)				
C	36881936	1	HOSE ASSEMBLY				
D	35294735	1	ELBOW				
E	36777399	1	VALVE , BALL				
F	22138515	1	BRACKET , CENTRAL DRAINS				
G	35608694	1	CAP				
H	35321173	1	FITTING , BULKHEAD				

OIL COOLER DRAIN



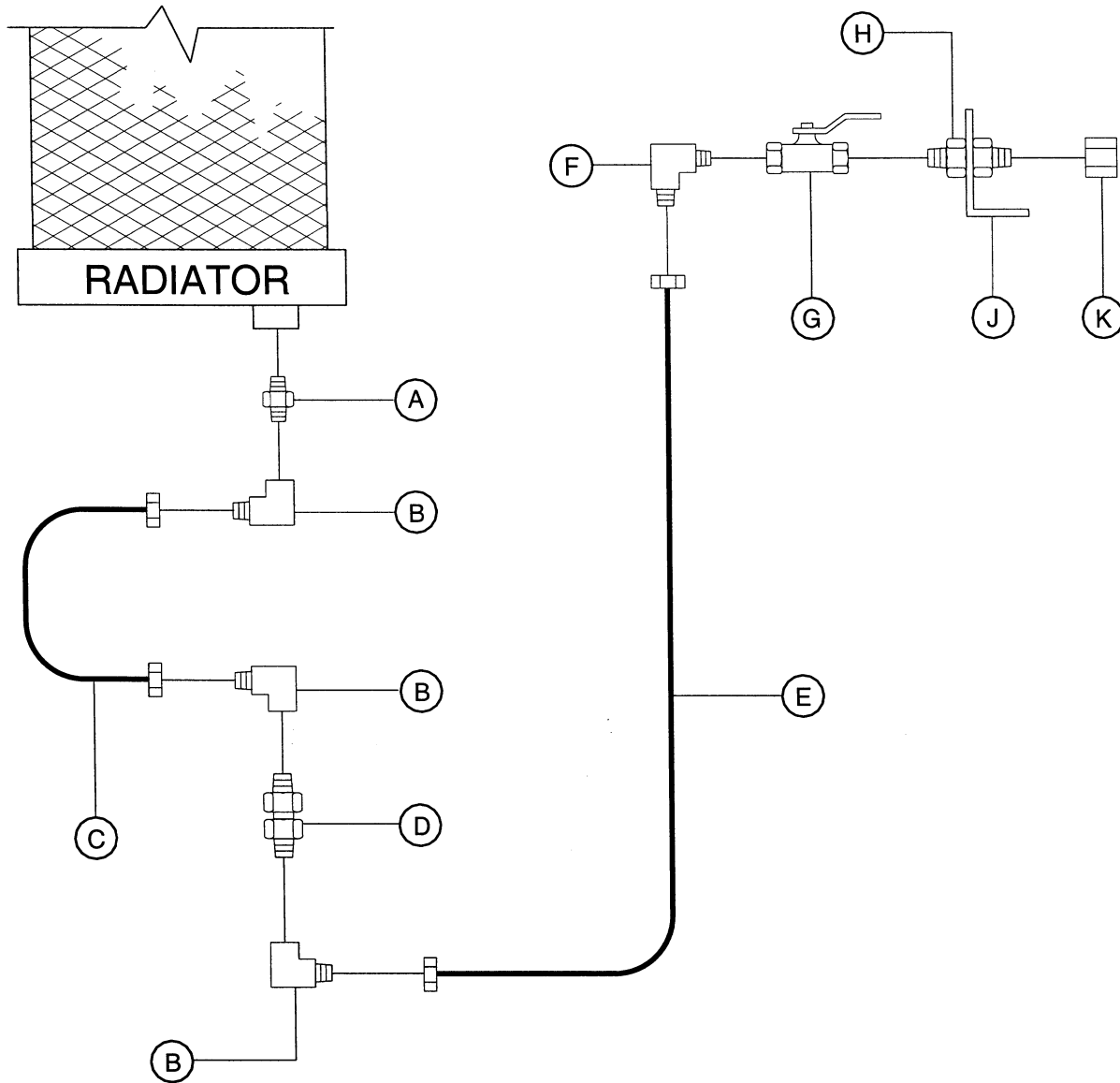
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35287937	1	ELBOW				
B	35283506	1	HOSE ASSEMBLY				
C	35287044	1	ELBOW				
D	36777399	1	VALVE , BALL				
E	22138515	1	BRACKET , CENTRAL DRAINS				
F	35608694	1	CAP				
G	35321173	1	FITTING , BULKHEAD				

FUEL TANK DRAIN



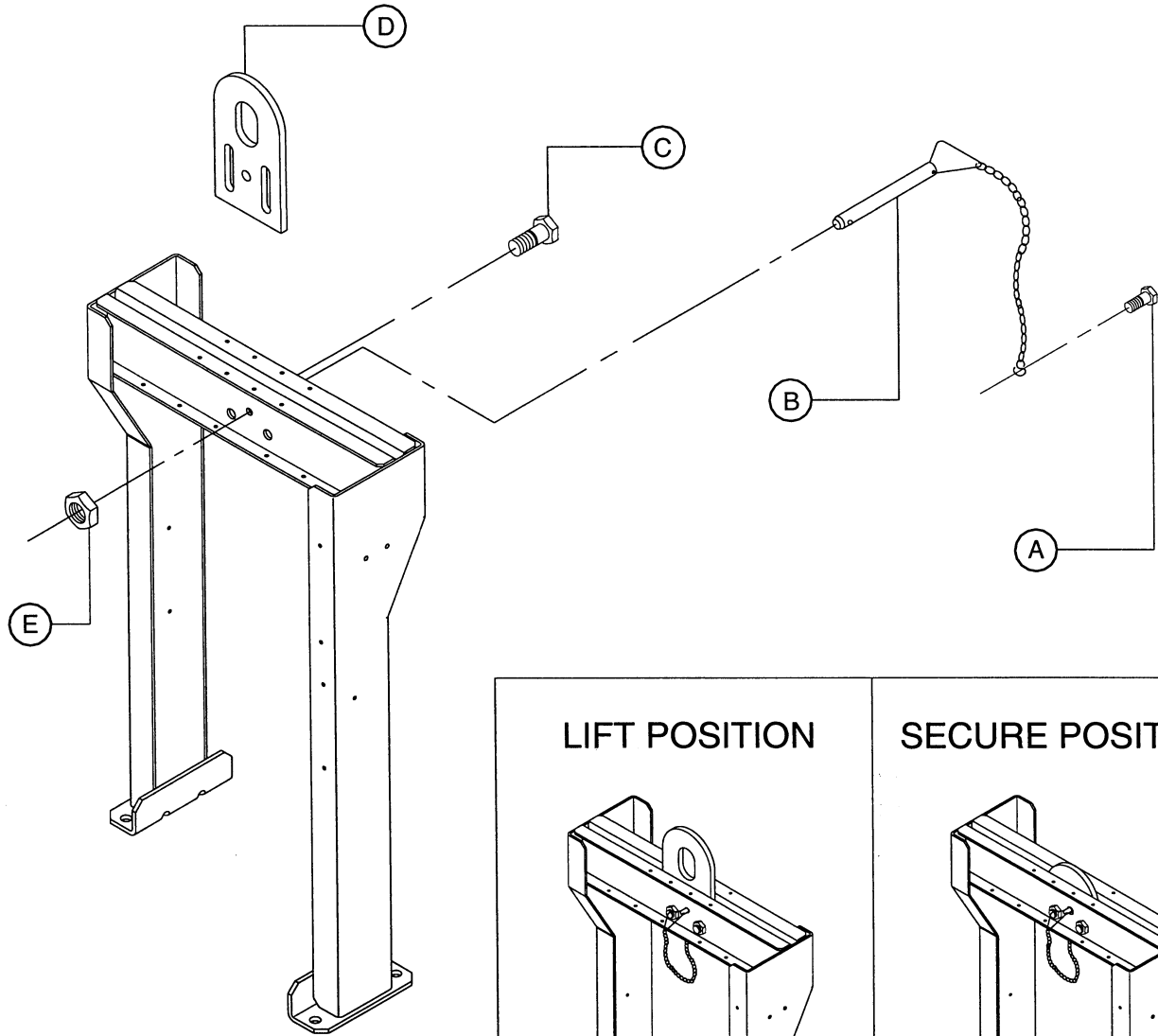
ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	95947487	1	BUSHING				
B	35294735	2	ELBOW				
C	35323682	1	HOSE ASSEMBLY				
D	36777399	1	VALVE , BALL				
E	35321173	1	FITTING , BULKHEAD				
F	22138515	1	BRACKET , CENTRAL DRAINS				
G	35608694	1	CAP				

RADIATOR DRAIN

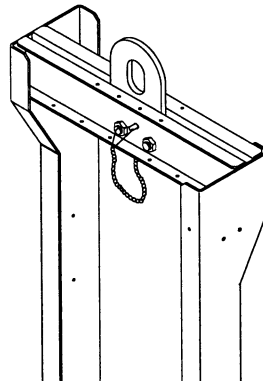


ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35283134	1	CONNECTOR				
B	35287911	3	ELBOW				
C	35252782	1	HOSE ASSEMBLY				
D	35285451	1	FITTING , BULKHEAD				
E	35307719	1	HOSE ASSEMBLY				
F	35287044	1	ELBOW				
G	36777399	1	VALVE , BALL				
H	35321173	1	FITTING , BULKHEAD				
J	22138515	1	BRACKET , CENTRAL DRAINS				
K	35608694	1	CAP				

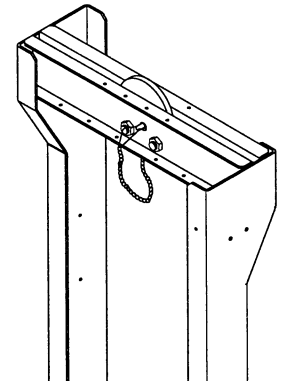
SECURABLE LIFT EYE



LIFT POSITION



SECURE POSITION



ITEM	CPN	QTY	DESCRIPTION	ITEM	CPN	QTY	DESCRIPTION
A	35279025	1	SCREW				
B	36848224	1	PIN				
C	36763670	2	SCREW				
D	22183685	1	EYE , SECURE LIFT				
E	96702741	2	NUT				

