oxbo®

Model DB18 Harvester

Operator's Manual

For Model DB18 Harvester with serial number 150821-4001XX.

Publication No. 91392-A
Model Year 2007

LIMITED WARRANTY

OXBO International Corporation warrants its new machines to be free from defects in material and workmanship, under normal use and service, for a period of one (1) year from the date of delivery to the original purchaser, or five hundred (500) hours of operation whichever occurs first.

Upon satisfactory claim, we will, within a reasonable time, at our option replace or repair defective parts free of charge. Charges for transportation, customs duties or taxes where applicable, installation, correcting defects or making additions will not be allowed, nor will we accept products returned for credit unless the return or correction is authorized by us in writing.

Warranty claims will not be honored if, in the Company's opinion, such claim was caused by improper use, improper adjustment or failure to properly maintain the machine.

THIS WARRANTY DOES NOT INCLUDE THE ENGINE. REFER TO THE ENGINE MANUFACTURER'S WARRANTY BOOK FOR WARRANTY INFORMATION. Components not manufactured by Oxbo International but furnished in connection with our products are covered directly by the warranty of the manufacturer supplying them. Oxbo International will assist our customers in obtaining adjustment on such components when necessary.

THE REMEDY FOR ANY BREACH OF WARRANTY AND THE ONLY REMEDY FOR THE COMPANY'S LIABILITY OF ANY KIND, INCLUDING LIABILITY FOR NEGLIGENCE, WITH RESPECT TO ANY MACHINE, SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT OF ANY DEFECTIVE PARTS AS STATED ABOVE, AND SHALL IN NO EVENT INCLUDE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED.

THE OWNER ASSUMES FULL RESPONSIBILITY FOR ANY DAMAGES, INJURIES, ETC. WHICH MAY RESULT IF THE EQUIPMENT IS USED FOR ANYTHING OTHER THAN THE HARVESTING OPERATION IT IS SPECIFICALLY DESIGNED TO DO.

UNAUTHORIZED MODIFICATION OR USE OF EQUIPMENT
OXBO International Corporation IS NOT RESPONSIBILE FOR DAMAGES, INJURIES, ETC. WHICH MAY RESULT FROM THE INSTALLATION AND OPERATION OF ATTACHMENTS OF ANOTHER MANUFACTURER MOUNTED ON THE MODEL DB18 HARVESTER. MOUNTING CORN HEAD CONFIGURATIONS (ROWS, WIDTHS AND WEIGHT) WHICH MAY EXCEED THE ENGINEERED SPECIFICATIONS FOR SAFE OPERATION COULD PUT EXCESSIVE STRESS ON THE HARVESTER CHASSIS AND ITS COMPONENTS LEADING TO PREMATURE EQUIPMENT FAILURE.

ANY FAILURES RESULTING FROM THE USE OF UNAUTHORIZED ATTACHMENTS OR MODIFICATIONS OF OXBO COMPONENTS WILL VOID THE MANUFACTURER'S WARRANTY.

MANUFACTURING SITES

OXBO International Corporation
7275 Byron Road
Byron, NY 14422-0100
Phone: (585) 548-2665
Fax: (585) 548-2599

OXBO International Corporation
100 Bean Street
Clear Lake, WI 54005-0017
Phone: (715) 263-2112
Fax: (715) 263-3324

OXBO International Corporation
270 Birch Bay Lynden Road
Lynden, WA 98264
Phone: (360) 354-1500
Fax: (360) 354-1300

SERVICE LOCATIONS

OXBO International Corporation
1025 Commerce Drive
LaBelle, FL 33935
Phone: (863) 991-2978
Fax: (863) 991-2094

OXBO International Corporation
23645 Diagonal Road
Grundy Center, IA 50638
Phone: (319) 824-5241
Fax: (319) 824-5242

OXBO International Corporation
26709 Meridian Road
Mendota, IL 61342
Phone: (815) 539-7207
Fax: (815) 539-7218

OXBO International Corporation
2550 Bethel Avenue
Kingsburg, CA 93631
Phone: (559) 897-7012
Fax: (559) 897-9350

OXBO International Corporation
10605 W 750 N
Shipshewana, IN 46565
Phone: (260) 768-3217
Fax: (260) 768-3219

OXBO International Corporation
815 North Oregon Avenue
Pasco, WA 99301
Phone: (509) 544-0362
Fax: (509) 544-0473

Visit our website http://www.oxbocorp.com

OXBO® DB18 HARVESTER

Operator's Manual

Publication No. 91392
First Edition
Model Year 2007

All information in this manual is based upon the latest product information available at the time of publication and is subject to change without notice. Each manual is reviewed periodically and revised to includes changes in later editions.

(THIS PAGE LEFT INTENTIONALLY BLANK)

DB18 Harvester

INTRODUCTION

The Oxbo DB18 is a self-propelled, full-time four-wheel drive articulated-steering chassis specifically designed to accept and operate fresh vegetable and seed harvesting attachments and to be compatible with attachments Oxbo International Corporation may develop and market in the future.

Oxbo International Corporation DISCLAIMS ANY RESPONSIBILITY FOR ANY DAMAGES, INJURIES, ETC. WHICH MAY RESULT FROM THE INSTALLATION AND OPERATION OF ATTACHMENTS OF ANOTHER MANUFACTURER MOUNTED ON THE OXBO DB18 WITHOUT PRIOR APPROVAL OF Oxbo International Corporation.

It is important that this manual be read and understood by the operator and maintenance personnel before attempting to operate or perform any maintenance on this machine. This manual contains information that will contribute to the safe, reliable and most productive operation of the Oxbo DB18 chassis.

TABLE OF CONTENTS

Safety

RECOGNIZE SAFETY INFORMATION

This is a safety alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

UNDERSTAND SIGNAL WORDS AND COLORS

Safety signs consist of a combination of pictorials, words and colors. Three signal words and three colors indicate the degree of hazard present in the area of the machine where the sign is displayed.

DANGER in white letters on a red background indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING in black letters on an orange background indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury such as when guards are removed.

CAUTION in black letters on a yellow background indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

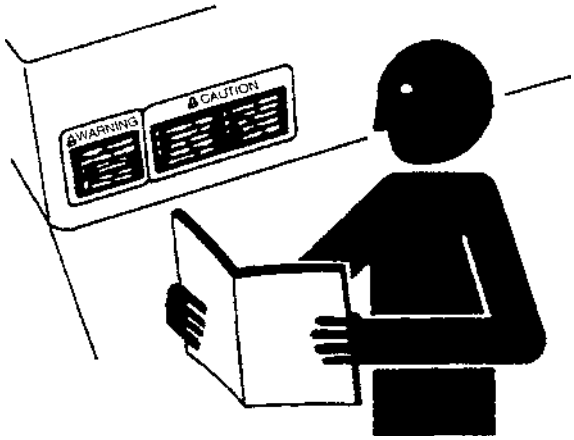
The pictorials on each sign show the likely consequence of human interaction with the hazard.

FOLLOW SAFETY INSTRUCTIONS

The warnings on these safety signs are for your personal safety and the safety of those working around you. **OBSERVE THESE WARNINGS!** If the signs become worn or illegible, replace them with new decals. Order them by part number from you local dealer.

REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.



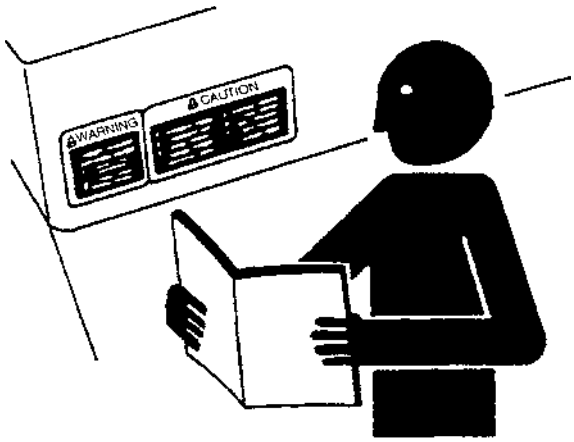
FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your dealer.

Learn how to operate the equipment and how to use controls properly. Do not let anyone operate without instruction.

Keep your equipment in proper working condition. Unauthorized modifications to the equipment may impair the function and/or safety and affect equipment life.

If you do not understand any part of this manual and need assistance, contact your dealer.



HANDLE FUEL SAFELY- AVOID FIRES

Handle fuel with care: it is highly flammable. Do not refuel the engine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

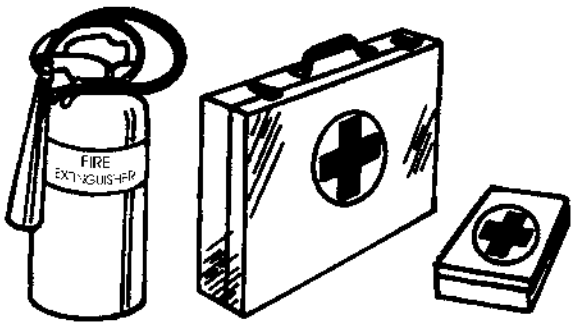
Prevent fires by keeping engine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



HANDLE STARTING FLUID SAFELY

Starting fluid is highly flammable.

Keep all sparks and flame away when using it. Keep starting fluid away from batteries and cables.

To prevent accidental discharge when storing the pressurized can, keep the cap on the container, and store in a cool, protected location.

Do not incinerate or puncture a starting fluid container.

HANDLE FLUIDS SAFELY-AVOID FIRES

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure engine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.

PREVENT BYPASS STARTING

Avoid possible injury or death from engine runaway.

Do not start engine by shorting across starter terminal. Engine will start with PTO engaged if normal circuitry is bypassed.

Start engine only from operator's station with PTO disengaged or in neutral.

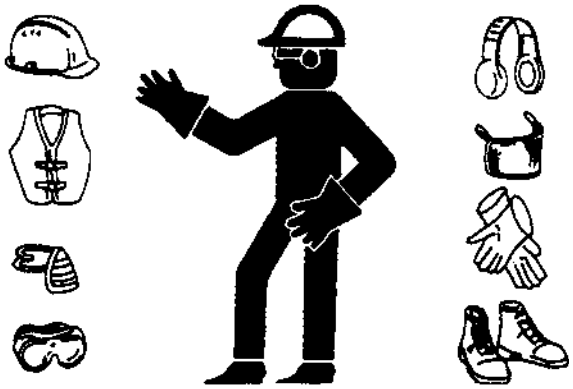
WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust engine while it is running. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow engine to cool.

Securely support any engine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on engine.

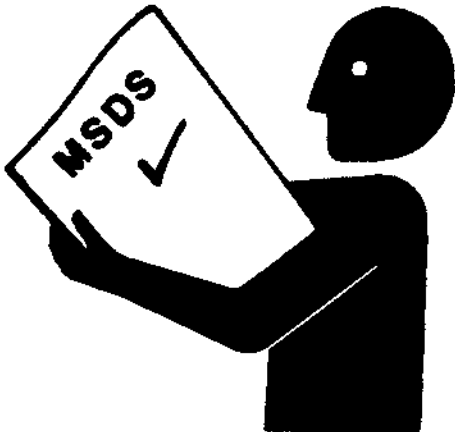
HANDLE CHEMICAL PRODUCTS SAFELY

Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with this equipment include such items as lubricants, coolants, paints, and adhesives.

A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.

Check the MSDS before you start any job using a hazardous chemical. That way you will know exactly what the risks are and how to do the job safely. Then follow procedures and recommended equipment.

(See your OXBO dealer for MSDS's on chemical products used with OXBO equipment.)



STAY CLEAR OF ROTATING DRIVELINES

Entanglement in rotating driveline can cause serious injury or death.

Keep master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close-fitting clothing. Stop the engine and be sure PTO driveline is stopped before making adjustments, connections, or performing any type service on the engine or PTO-driven equipment.

PROTECT AGAINST NOISE

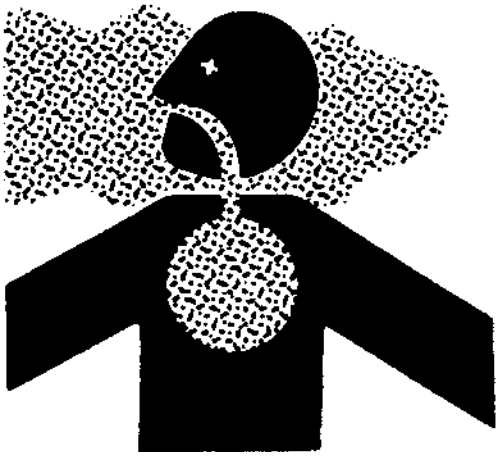
Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

WORK IN VENTILATED AREA

Engine exhaust fumes can cause illness or death. If it is necessary to run and engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.



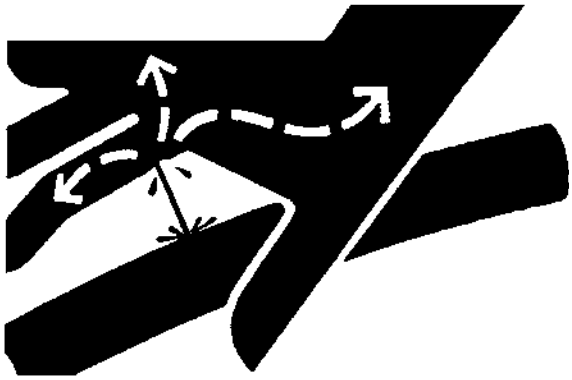
AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

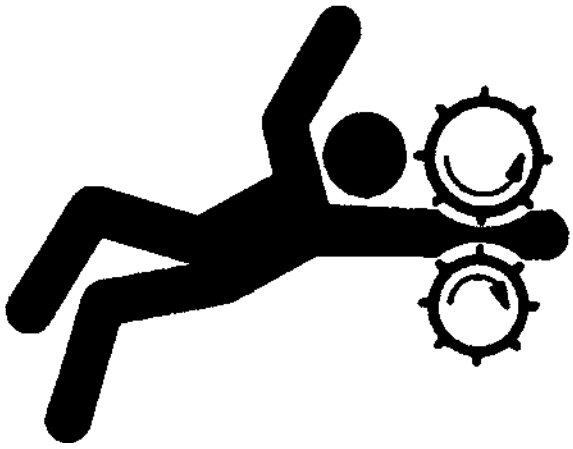
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.



SERVICE EQUIPMENT SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near engine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



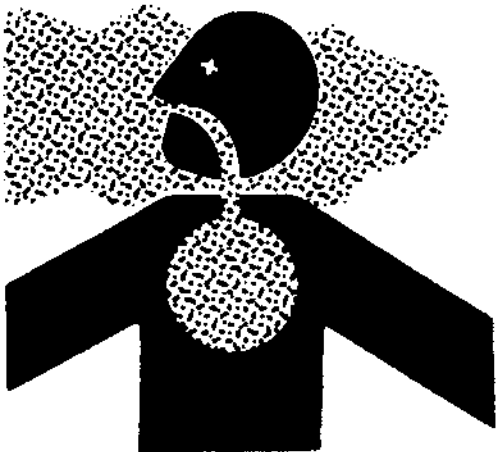
AVOID HEATING NEAR PRESSURIZED FLUID

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can be accidently cut when heat goes beyond the immediate flame area.

REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes or dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.



Remove paint before heating:

- Remove paint a minimum of 101 mm (4in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use chlorinated solvent in areas where welding will take place.

Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.

SERVICE COOLING SYSTEM SAFELY

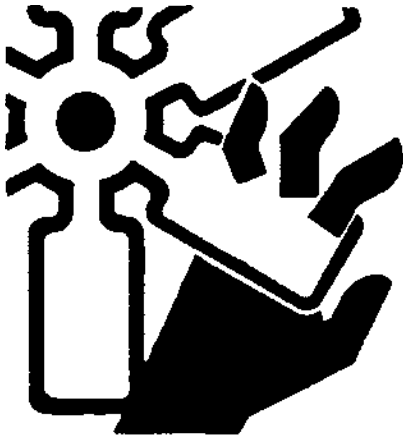
Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to release pressure before removing completely.

INSTALL FAN GUARDS

Rotating cooling system fans can cause serious injury.

Keep fan guards in place at all times during engine operation. Wear close fitting clothes. Stop the engine and be sure fan is stopped before making adjustments or connections, or cleaning near the front of the engine.



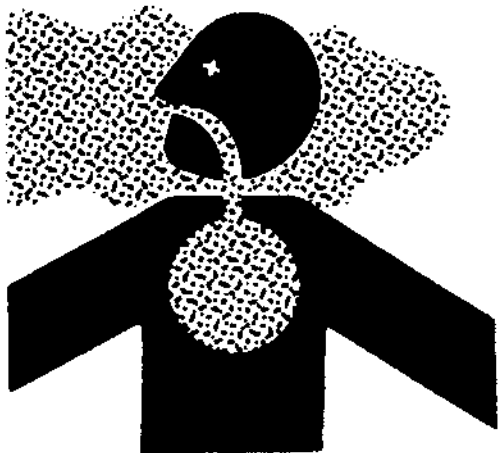
DO NOT OPEN HIGH-PRESSURE FUEL SYSTEM

High-Pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt repair of fuel lines, sensors, or any other components between the high-pressure fuel pump and nozzles on engines with High Pressure Common Rail (HPCR) fuel system.

Only technicians familiar with this type of system can perform repairs.

AVOID HARMFUL ASBESTOS DUST

Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.



Components in products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates, and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding material containing asbestos. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, apply a mist of oil or water on the material containing asbestos.

Keep bystanders away from the area.

AVOID HOT PARTS

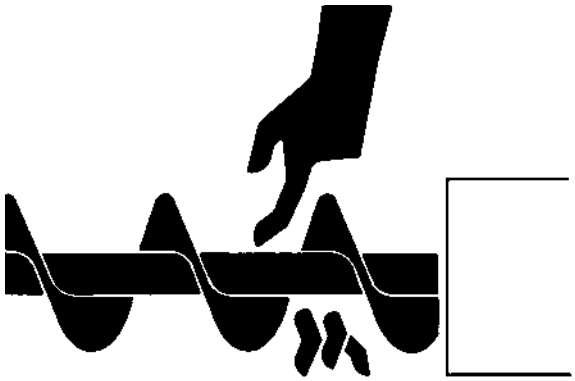
Avoid skin contact with exhaust manifolds, turbochargers and mufflers. Keep flammable materials clear of the turbocharger.

External dry exhaust parts become very hot during operation, Turbochargers may reach temperatures as high as 500°C (932°F) under full load, and naturally aspired exhaust manifolds may reach 600°C (1112°F) under full load. This may ignite paper, cloth or wooden materials. Parts on engines that have been at full load and reduced to no load idle will maintain approximately 150°C (302°F).

KEEP CLEAR OF AUGERS

Keep clear of the working and danger areas around the machine.

Shut off machine before working on it. Use caution when working on moveable elements of the machine. There are numerous pinch and shearing points.



HANDLE BATTERIES SAFELY

Sulfuric acid in electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

- Filling batteries in a well-ventilated area.
- Wearing eye protection and rubber gloves.
- Avoiding breathing fumes when electrolyte is added.
- Avoiding spilling or dripping electrolyte.
- Using proper jump start procedure.

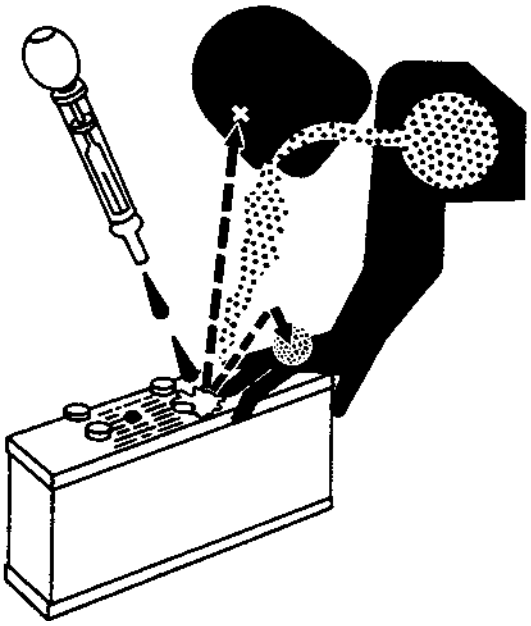
If you spill acid on yourself:

- Flush your skin with water.
- Apply baking soda or lime to help neutralize the acid.
- Flush your eyes with water for 15-30 minutes. Get medical attention immediately.

If acid is swallowed:

- Do not induce vomiting.
- Drink large amounts of water or milk, but do not exceed 2 L (2 qt.).
- Get medical attention immediately.

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

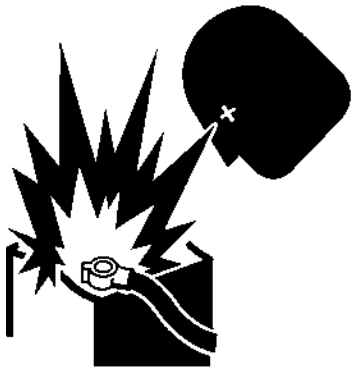


PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

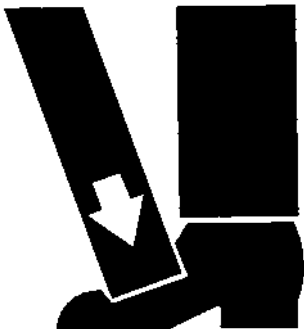
Do not charge a frozen battery; it may explode. Warm battery to 16°C (60F).



USE PROPER LIFTING EQUIPMENT

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



USE PROPER TOOLS

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

Use only service parts meeting OXBO specifications.

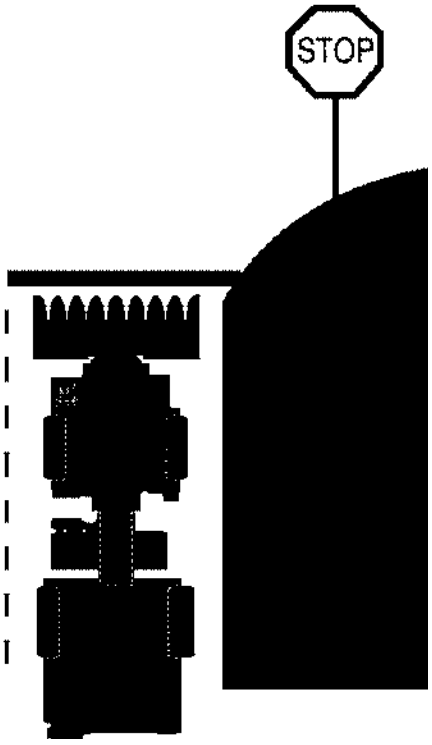
PROTECT AGAINST HIGH PRESSURE SPRAY

Spray from high pressure nozzles can penetrate the skin and cause serious injury. Keep spray from contacting hands or body.

If an accident occurs, see a doctor immediately. Any high pressure spray injected into the skin must be surgically removed within a few hours or gangrene may result. Doctor's unfamiliar with this type of injury should reference a knowledgeable medical source.

OBSERVE ALL TRAFFIC REGULATIONS

When traveling on public roads observe all traffic regulations in your area, especially the permissable transport dimensions.



DISPOSE OF WASTE PROPERLY

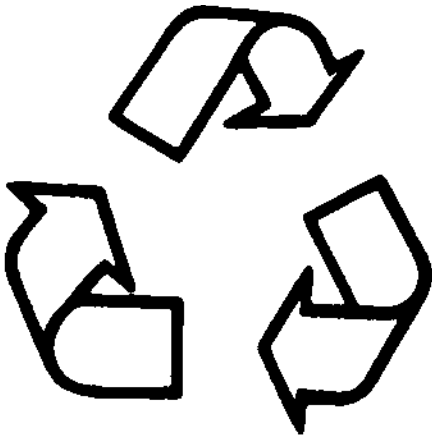
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with agricultural equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

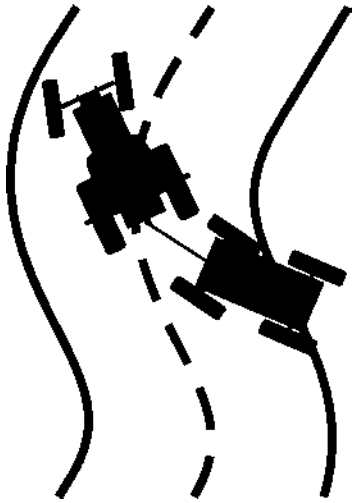
Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your dealer.



DRIVE AT SAFE SPEEDS

Always drive at speeds which allow complete control under existing field or road conditions.

Trailed implements influence the steering and braking performance of the tow vehicle. Make sure there is sufficient steering and brake capacity.



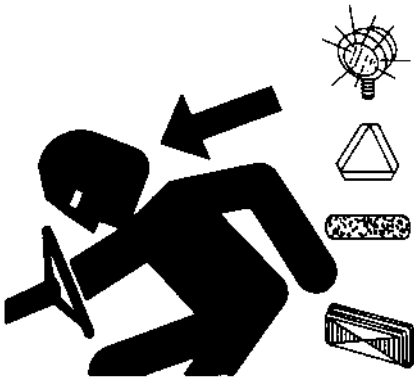
USE SAFETY LIGHTS AND DEVICES

Slow moving tractors, self-propelled equipment and towed implements or attachments can create a hazard when driven on public roads. They are difficult to see, especially at night. Avoid personal injury or death resulting from collision with a vehicle.

Flashing warning lights and turn signals are recommended whenever driving on public roads. To increase visibility, use the lights and devices provided with your machine. For some equipment, install extra flashing warning lights.

Be sure to observe local laws.

Keep safety items in good condition. Replace missing or damaged items.

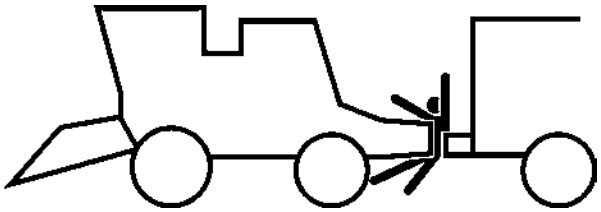


NO RIDERS

Never allow anyone to ride on the machine during operation or transport.

STAY CLEAR OF MACHINE

No one is allowed to step between the power unit and implement unless the machine is secured against unintentional movement by means of the parking brake or wheel chocks.



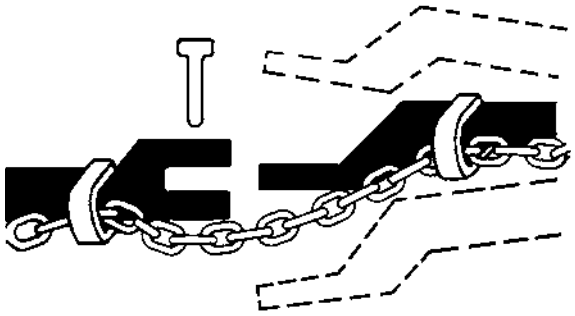
USE A SAFETY CHAIN

A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

Using the appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning.

See the Operating Instructions of this manual for proper attachment instructions. Replace the safety chain if necessary with OXBO specified chain as found in the parts book.

Do not use the safety chain for towing.

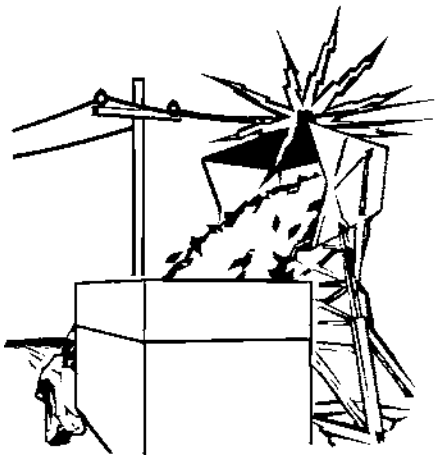


STAY CLEAR OF WIRES

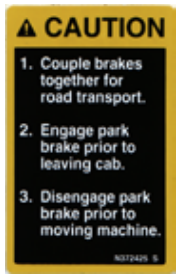
Watch for overhead power lines

Contact may result in serious injury or death by electrocution.

Proceed cautiously under overhead electrical lines and around utility poles.



Safety Sign Locations



John Deere Part

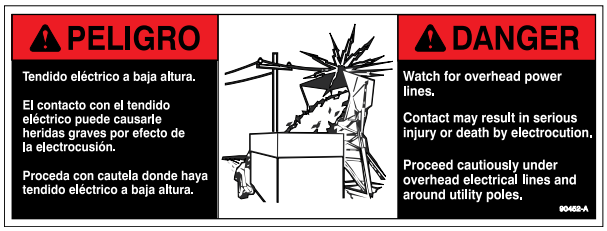
3000-0215

92141

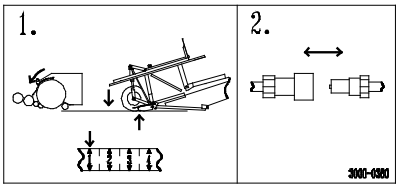
3000-0226

90470

Safety Sign Locations

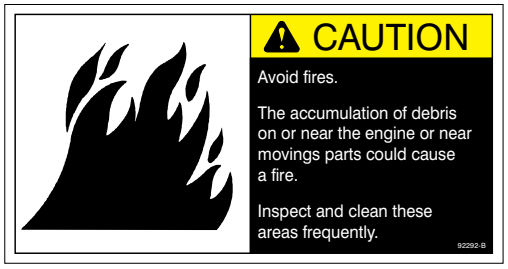


90452

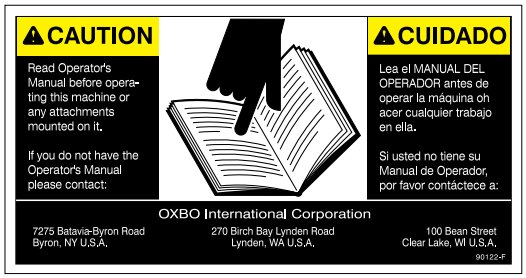


3000-0360

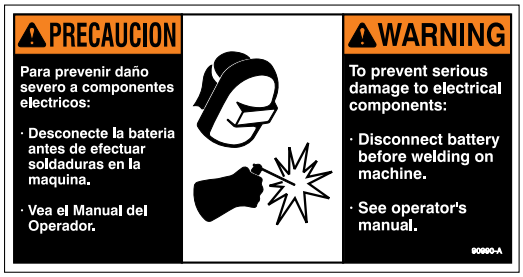
90108



92292



90122



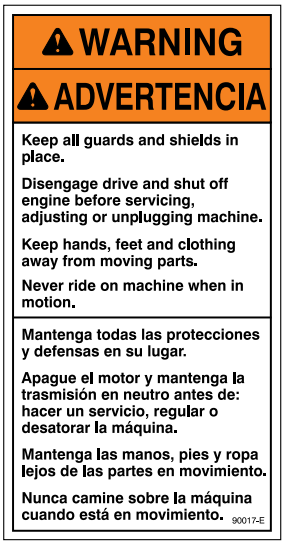
90990

Safety Sign Locations

John Deere Part

Safety Sign Locations

3000-0343

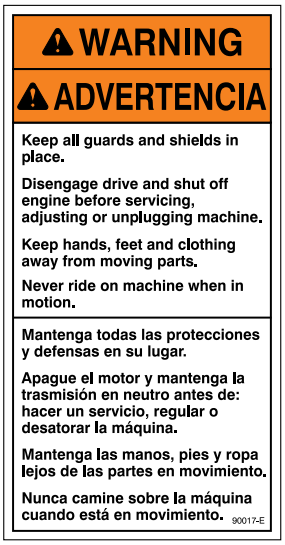


90017

Safety Sign Locations

3000-0173

90019

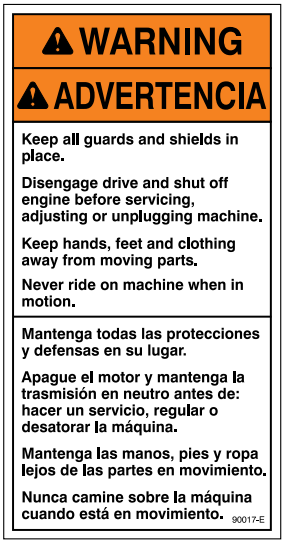


90017

Safety Sign Locations

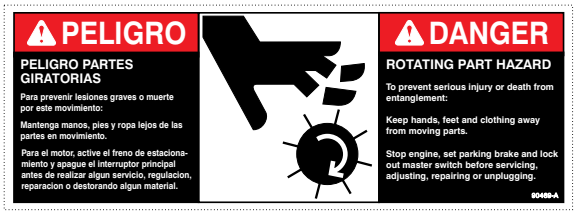
90019

3000-0224



90017

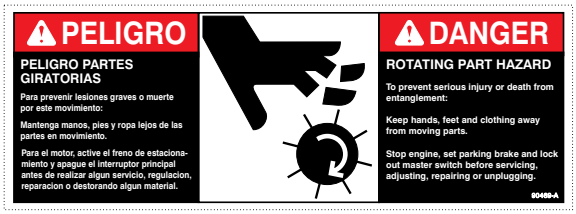
Safety Sign Locations



90469

90023

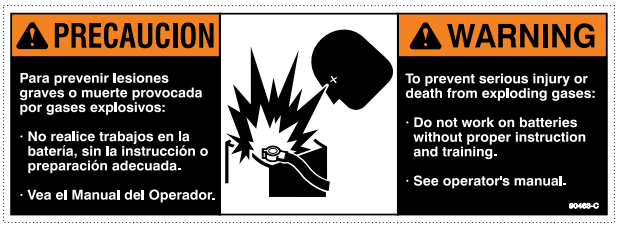
Safety Sign Locations



90469

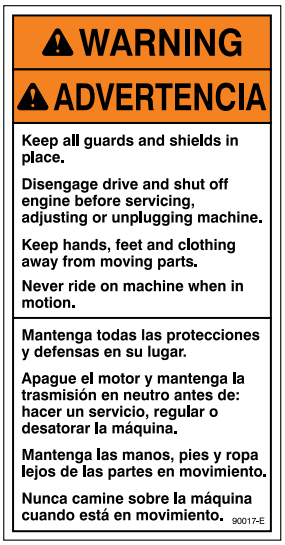
90023

Safety Sign Locations



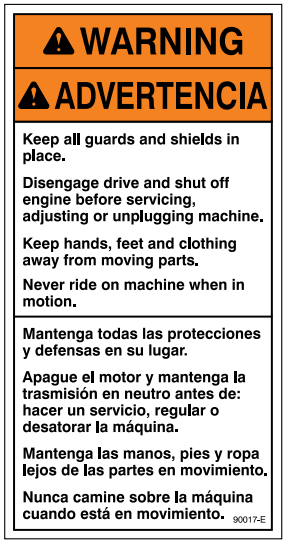
90463

90528



90017

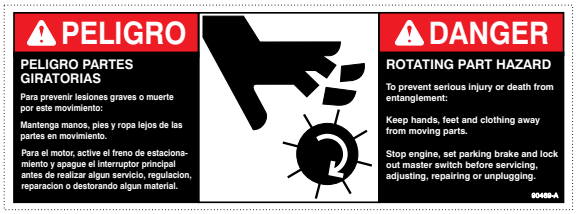
Safety Sign Locations



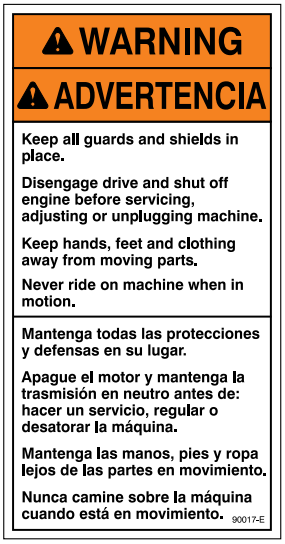
90017

3000-0190

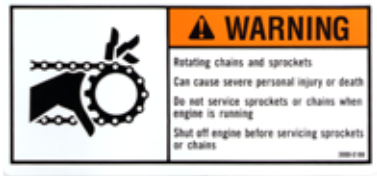
Safety Sign Locations



90469

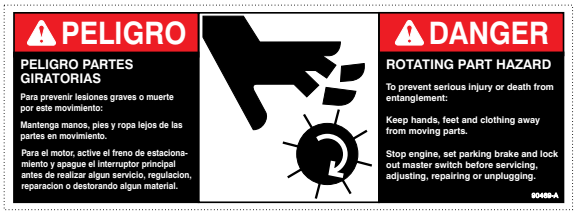


90017



3000-0188

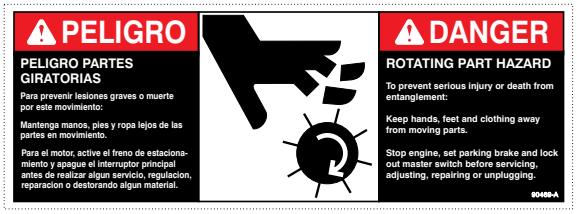
Safety Sign Locations



90469

Safety Sign Locations

3000-0190

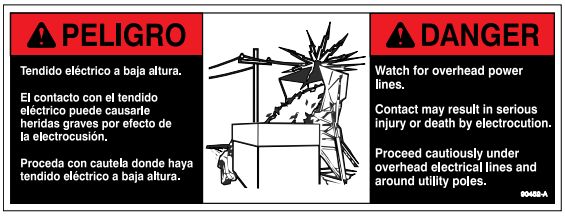


90469

Safety Sign Locations

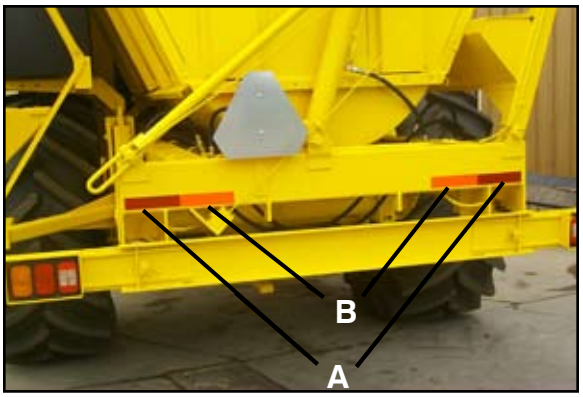
3000-0225

3000-0190



90452

6002-0121

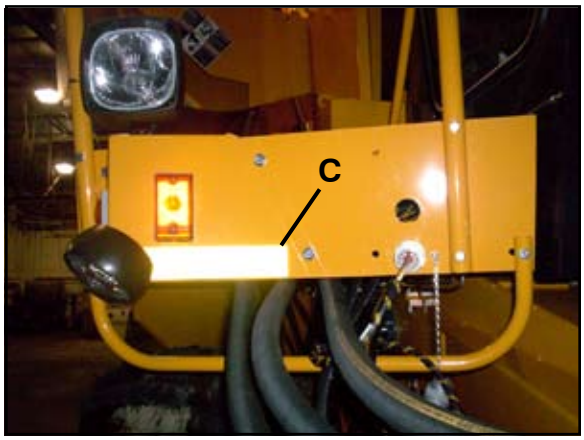


90923

Reflector Kit
(A) 2 red
(B) 2 orange
(C) 6 yellow

90923

Reflector Kit
(A) 2 red
(B) 2 orange
(C) 6 yellow



Hydraulic Cylinder Safety Stops

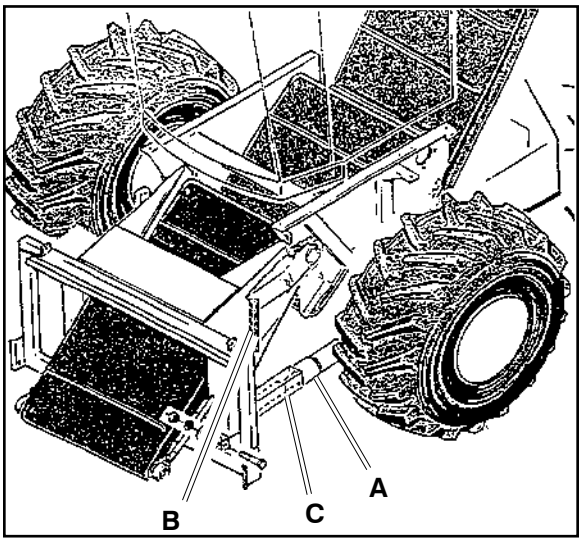
DANGER: ALWAYS PUT THE HYDRAULIC CYLINDER SAFETY STOPS IN THE SAFETY POSITION WHEN WORKING UNDER THE HEADER. THIS KEEPS THE HEADER FROM LOWERING ACCIDENTALLY.

ENGAGING THE SAFETY POSITION

To put the hydraulic safety stops in the safety position:

1. Start the engine, raise the header, and extend the hydraulic cylinders (A) out as far as they will extend.
2. Stop the engine.
3. Disconnect the support chains (B) from the keyhole chain holders and lower the safety stops (C) down against the shafts of the hydraulic cylinders. To prevent damage, connect the support chains back to the keyhole chain holders.
4. Start the engine.
5. Slowly retract hydraulic cylinders until they rest against the safety stops.
6. Stop the engine.

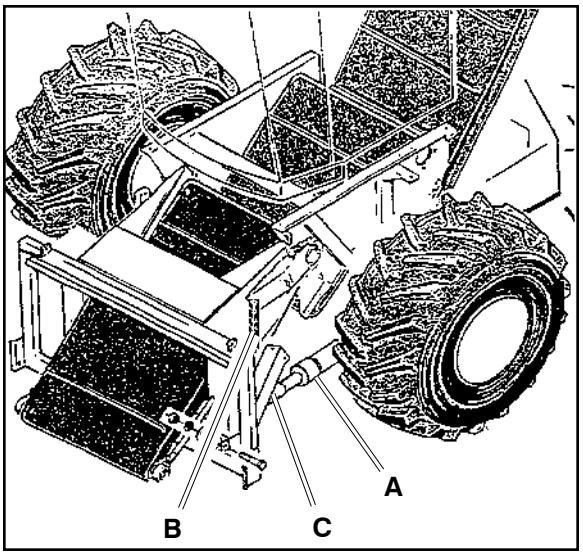
IMPORTANT: DO NOT PUT THE HYDRAULIC CYLINDER SAFETY STOPS IN THE SAFETY POSITION FOR ROAD TRAVEL. DAMAGE TO THE HYDRAULIC CYLINDER AND SAFETY STOPS CAN OCCUR.



DISENGAGING THE SAFETY POSITION

To disengage the hydraulic cylinder safety stops from the safety position:

1. Start the engine, raise the header, and extend the hydraulic cylinders (A) out as far as they will extend.
2. Stop the engine.
3. Disconnect the support chains (B) from the keyhole chain holders and raise the safety stops (C) up. Connect the support chains at the proper height to the keyhole chain holders.
4. Start the engine.
5. Continue normal operation, or park the DB18 and stop the engine.



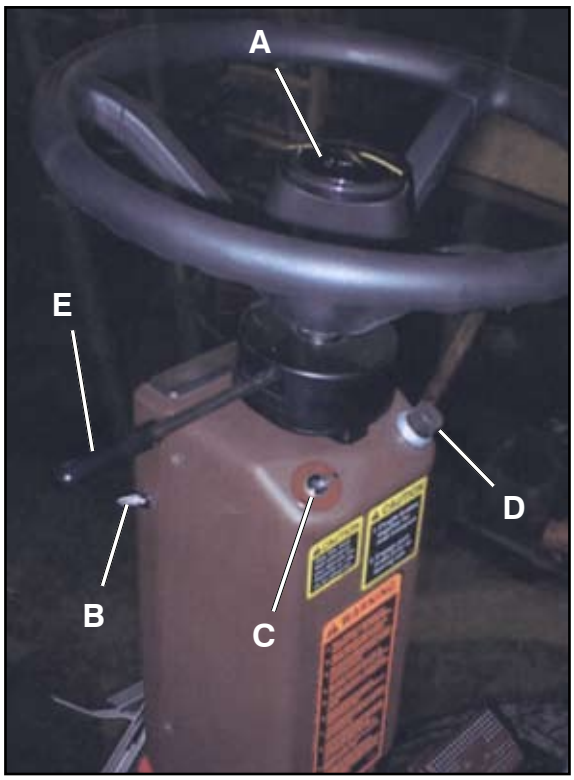
Operator's Station

STEERING COLUMN CONTROLS

TELESCOPING STEERING WHEEL

CAUTION: ADJUST STEERING WHEEL ONLY WHEN POWER UNIT IS STOPPED.

Loosen hub (A). Push or pull wheel to position. Tighten hub to lock. Only a slight tightening of the hub is needed to hold steering wheel in position.



STROBE LIGHTS

Push the Strobe Light Switch (B) upward to start the strobe lights or downward to stop the strobe lights.

HIGH/LOW BEAM

Push the Hi/Lo Beam Switch (C) forward to activate high-beam road lights or rearward to deactivate the high-beam road lights.

HORN SWITCH

Depress the horn Switch (D) to sound the horn.

TURN SIGNAL LEVER

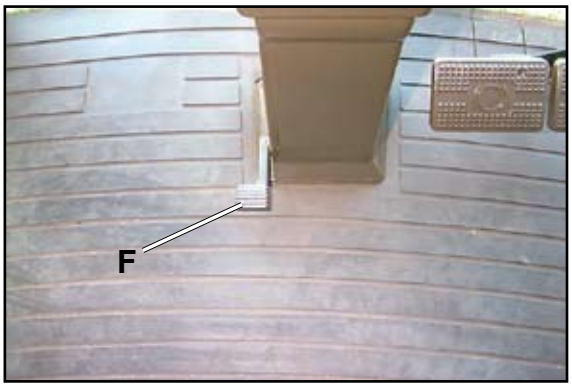
Use the Turn Signal Lever (E) to turn the turn signal lights on and off. (Refer to *Section C* for more details).

STEERING COLUMN TILT ADJUSTING

CAUTION: TO PREVENT MOMENTARY LOSS OF CONTROL, ADJUST COLUMN ONLY WHEN POWER UNIT IS STOPPED.

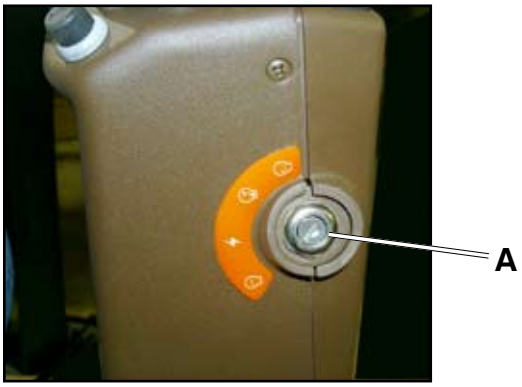
Press pedal (F) to release lock on steering column. Put column in desired position. Column locks when pedal is released.

Column is spring loaded to the upright position. Do not step on pedal without holding steering wheel in both hands.



IGNITION

Insert key into switch (A) and rotate switch to the desired function.

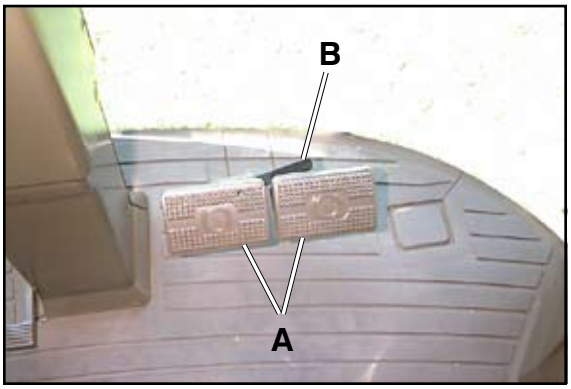


SERVICE BRAKES

The service brakes are applied in the cab by two foot pedals (A) linked to two hydraulic brake valves which are connected to the service brake calipers.

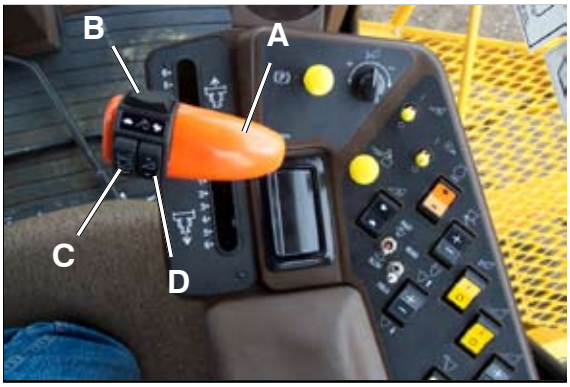
IMPORTANT: ALWAYS KEEP BRAKE PEDALS LOCKED TOGETHER.

Lock pedals together with lever (B).



HYDROSTATIC DRIVE CONTROL LEVER (Joystick)

The hydrostatic ground drive lever (A) allows precise adjustment of forward and reverse ground speed within a selected gear range.
With the transmission in gear, move the lever forward to move the harvester forward at a ground speed proportional to the position of the lever. The lever is friction set and remains in the set position.
Move the lever backward at any time to slow the forward ground speed travel.



IMPORTANT: THE HYDROSTATIC GROUND DRIVE LEVER MUST BE IN THE NEUTRAL POSITION BEFORE THE HARVESTER ENGINE CAN BE STARTED.

IMPORTANT: THE FORWARD GROUND SPEED IS A CRITICAL PART OF THE SUCCESSFUL RECOVERY OF PRODUCT. THE FORWARD GROUND SPEED MUST BE ADJUSTED ACCORDING TO THE FIELD CONDITIONS, CROP CONDITIONS, AND TERRAIN.

IMPORTANT: TO OBTAIN THE MOST EFFICIENT OPERATION OF THE HARVESTER, SELECT A GEAR RANGE THAT ALLOWS THE HYDROSTATIC GROUND DRIVE LEVER TO OPERATE IN A 3/4 TO FULLY STROKED POSITION DURING HARVESTER OPERATION.

IMPORTANT: FOR REVERSE TRAVEL, MOVE THE HYDROSTATIC GROUND DRIVE LEVER TO THE NEUTRAL POSITION, TILT IT TO THE RIGHT, AND MOVE IT BACKWARD. MAXIMUM REVERSE SPEED IS APPROXIMATELY 50% OF THE FORWARD SPEED.

ELEVATOR SPEED SWITCH

Press the right side of the Elevator Speed Switch (B) to increase the speed of the elevator.
Press the left side of the switch to decrease the speed of the elevator.

HEADER RAISE/LOWER SWITCH

Press the upper half of the Header Control Switch (C) to lower the header.
Press the lower half of the switch to raise the header.

RASP ADJUSTMENT SWITCH (For Corn Header with RASP)

Press the upper half of the RASP Adjustment Switch (D) to open stripper plate gap.
Press the lower half of the switch to close stripper plate gap.

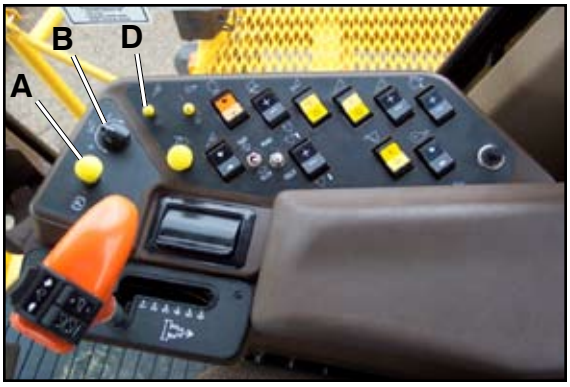
CUTTING HEIGHT ADJUSTMENT SWITCH (For Corn Puller)

Press the upper half of the Cutting Height Adjustment Switch (D) to increase the cutting height. (Raises the header).
Press the lower half of the switch to decrease the cutting height. (Lowers the header).

ARMREST CONSOLE

PARKING BRAKE SWITCH

Pull up on the Parking Brake On-Off Switch (A) to engage the parking brakes.
Push down on the switch to release the parking brakes.



HEADER FLOAT CONTROL (For Corn Puller)

Turn the Header Float Knob (B) counterclockwise to decrease the hydraulicpressure and provide more ground pressure on the Corn Puller gauge wheel (for a heavier footprint).
Turn the switch clockwise to increase the hydraulic pressure and provide less pressure on the gauge wheel (for a lighter footprint).

Use the gauge (C), located to right and outside of the front window, to monitor the pressure of the header float system. Start harvesting with the header flotation pressure set at 1200 psi (82.7 bar). Maintain the pressure range at 1000 psi (68.9 bar) to 1500 psi (103.4 bar).

HEADER ON-OFF SWITCH

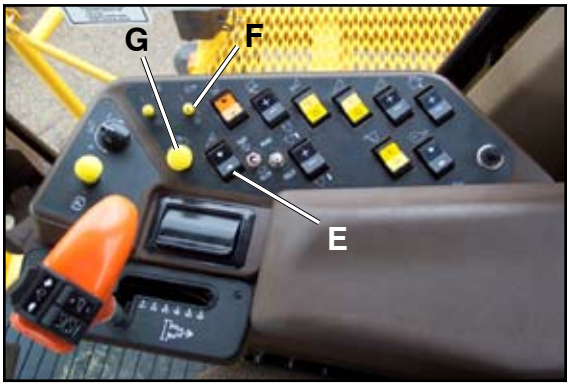
Lift the Header On-Off Switch (D) and move it forward to turn on header functions.
Lift and move the switch rearward to turn off header functions.

DANGER: NEVER ATTEMPT TO CLEAR ANY OBSTRUCTIONS FROM THE HEADER WHILE THE HARVESTER IS RUNNING. DISENGAGE THE HEADER AND SHUT OFF THE ENGINE BEFORE ATTEMPTING ANY MAINTENANCE. AN IMMEDIATE HAZARD OF BEING PULLED INTO THE HEADER EXISTS WHICH WILL RESULT IN A HIGH PROBABILITY OF DEATH OR SEVERE PERSONAL INJURY IF THE WARNING IS IGNORED AND PROPER SAFETY PRECAUTIONS ARE NOT TAKEN.

IMPORTANT: ALWAYS START THE HEADER AT A LOW ENGINE SPEED (RPM). THIS HELPS REDUCE STRESS ON THE COMPONENTS OF THE HEADER.

HEADER SPEED SWITCH

Press the upper half of the Header Speed Switch (E) to increase header speed.
Press the lower half of the switch to decrease header speed.



FANS ON-OFF SWITCH

Lift the Fans On-Off Switch (F) and move it forward to start fans.
Lift and move the switch rearward to turn fans off.

CONVEYORS ON-OFF SWITCH (For Corn Head)

Pull up on the Conveyors On-Off Switch (G) to start the conveyor, stalk ejector and elevator.
Push down on the switch in to stop the conveyor, stalk ejector and elevator.

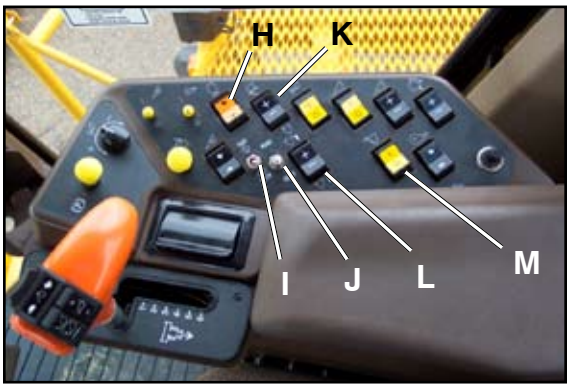
CONVEYORS ON-OFF SWITCH (For Corn Puller)

Pull the Conveyors On-Off Switch (G) out to start the cutters, conveyor, stalk ejector and elevator. Push the switch in to stop the cutters, conveyor, stalk ejector and elevator.

IMPORTANT: THE CONVEYOR SPEED IS DIRECTLY PROPORTIONAL TO THE HARVESTER ENGINE SPEED (RPM). ALWAYS START THE CONVEYORS AT A LOW HARVESTER ENGINE SPEED.

ENGINE THROTTLE SWITCH

Press the upper half of the Engine Throttle Switch (H) to increase engine speed.
Press the lower half of the switch to decrease engine speed.



RANGE SWITCH

Move the Range Switch (I) forward to engage high speed range.
Move the switch rearward to engage low speed range.

Select the gear and speed range that allows the joystick to operate at 3/4 to full stroke for efficient operation.

FIELD/ROAD SWITCH

Move the Field/Road Switch (J) forward to shift the transmission into the ROAD position for driving on the road and at higher speeds.
Move the switch rearward to shift the transmission into the FIELD position for operating in the field and at slower speeds.

Select the gear and speed range that allows the joystick to operate at 3/4 to full stroke for efficient operation.

IMPORTANT: BRING THE HARVESTER TO A COMPLETE STOP BEFORE SWITCHING BETWEEN FIELD AND ROAD GEARS. JOYSTICK MUST BE IN NEUTRAL POSITION AND PARKING BRAKE SWITCH TURNED ON.

DUMP UNLOAD SWITCH

Press the upper half of the Dump Box Unload Switch (K) to tilt the dump box.
Press the lower half of the switch to retract the dump box.

DUMP BOX HEIGHT SWITCH

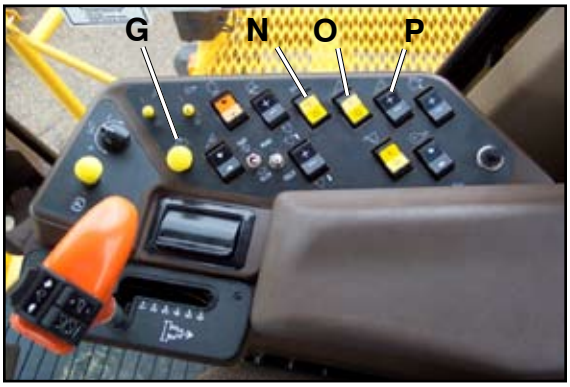
Press the upper half of the Dump Box Height Switch (L) raise the dump box.
Press the lower half of the switch to lower the dump box.

DUMP BOX CONVEYOR ON-OFF SWITCH (Optional)

Press the upper half of the Dump Box Conveyor On-Off Switch (M) to turn on the conveyor.
Press the lower half of the switch to turn off the conveyor.

AUTO HEADER FLOAT ON-OFF SWITCH (For Corn Puller)

Press the upper half of the Auto Header Float Switch (N) to start the automatic header float function.
Press the lower half of the switch to stop the automatic Header Float function.



INTAKE CONVEYOR REVERSE SWITCH

Press the upper half of the Intake Conveyor Reverse Switch (O) to start the conveyor and stalk ejector in the reverse direction.
Press the lower half of the switch to stop the conveyor and stalk ejector.

NOTE: Conveyor On-Off Switch (G) must be turned off for reverse to work.

NOTE: The rear elevator does not reverse with the Intake Conveyor Reverse Switch.

PICKING WINDOW ADJUSTMENT SWITCH (For Corn Puller)

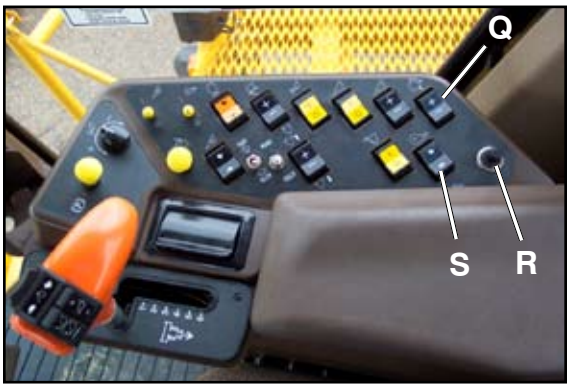
Press the upper half of the Picking Window Adjustment Switch (P) to open the Corn Puller Picking Window to a maximum height of 36-1/2" (92.7 cm).
Press the lower half of the switch to close the Corn Puller Picking Window to a minimum height of 22" (56.0 cm).

DUMP BOX CONVEYOR SPEED SWITCH (Optional)

Press the upper half of the Dump Box Conveyor Speed Switch (P) to increase the speed of the conveyor.
Press the lower half of the switch to decrease the speed of the conveyor.

DISCHARGE CHUTE SWITCH

Press the upper half of the Discharge Chutes Switch (Q) to raise the discharge chute.
Press the lower half of the switch to lower the discharge chute.



WARNING: ALWAYS BE AWARE OF THE SURROUNDINGS AND MAKE SURE THAT EVERYONE IS CLEAR OF THE FAN DISCHARGE AREA. DEBRIS IS THROWN FROM FANS AT HIGH SPEEDS AND CAN CAUSE SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE. LOWER (CLOSE) THE DISCHARGE HOODS NEAR ROADWAYS, RESIDENTIAL AREAS, ETC. TO HELP PREVENT ACCIDENTS.

CIGARETTE LIGHTER

Push the knob (R) in for the lighter to heat up.

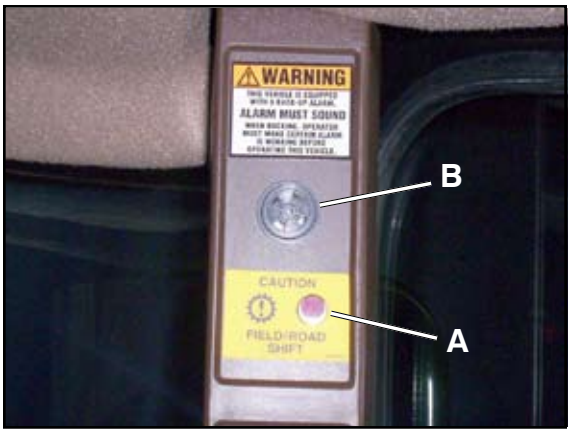
FAN SPEED SWITCH

Press the upper half of the Fan Speed Switch (S) to increase fan speed.
Press the lower half of the switch to decrease fan speed.

FIELD/ROAD INDICATORS

The Field/Road Light (A) will flash and Audible Alarm (B) will pulsate if transmission gears are not fully engaged.

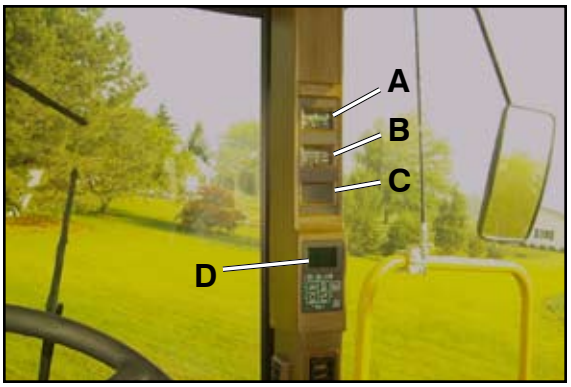
If transmission gears do not fully engage, turn off parking brake and gently steer the harvester back and forth or slowly move forward until the gears fully engage.



B

CORNER POST INSTRUMENTS

A) Fuel level gauge
B) Engine temperature gauge
C) Voltmeter
D) Digital Tachometer

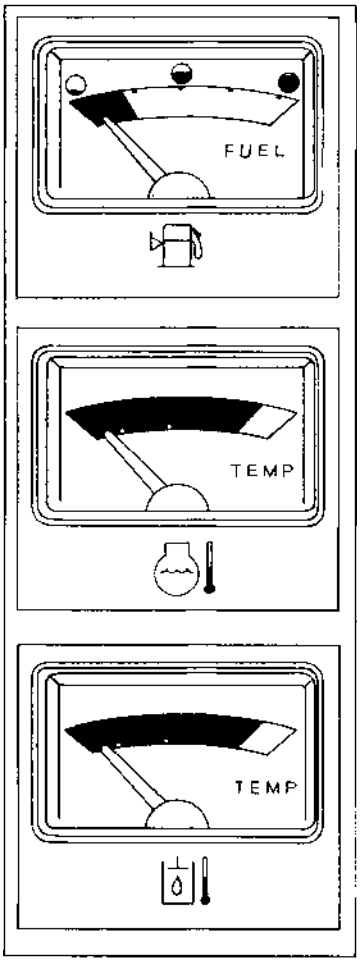


FUEL LEVEL GAUGE

With key on, needle will move to the right, showing amount of fuel in tank. Orange color indicates low fuel. Green color shows 1/4 full or more.

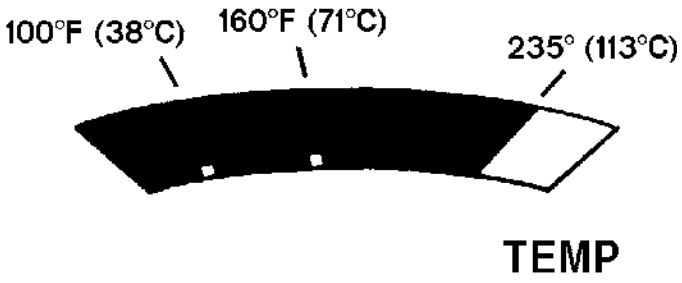
The needle may be in any position when key is off.

Fuel tank capacity is 100 gal. (757 L)



ENGINE COOLANT TEMPERATURE GAUGE

Needle should be in the black zone during normal operation. If temperature rises into the red zone, stop engine and investigate.



VOLTMETER

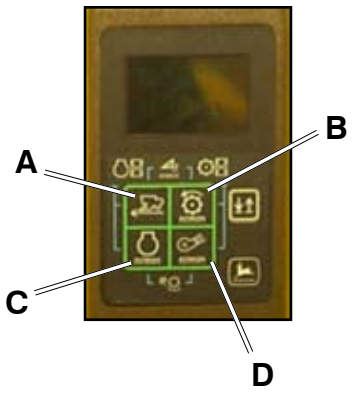
Needle should be in the normal range of the gauge which is about 12 to 15 volts. If needle drops below into the red range of the gauge, about 11 volts or lower, stop engine and investigate.

DIGITAL TACHOMETER

TACHOMETER KEYS

Press any of the keys on the tachometer touch pad to display functions on the digital display screen.

A) Harvester mph (ground speed).
B) Header rpm.
C) Engine rpm.
D) Fan rpm.



Press the two left-hand touch pad keys (A and C) simultaneously to display the engine running hours, accumulated to date.

Press the two right-hand touch pad keys (B and D) simultaneously to display the harvester running hours, accumulated to date.

SERVICE INTERVAL

SEV1 will display when it is time for a 50-hour service interval. See *Section J - page 1* for more details.

OVERHEAD WARNING DISPLAY PANEL

Illuminates a red or amber light and sounds an audible alarm for the following conditions:

RED LIGHT - Stop engine at once and correct problem.

AMBER LIGHT - Requires service or attention. Stop as necessary.

When ignition key is in start position, all lights on the panel will come on.

Warning lights dim at night when the road lights or work lights are on.

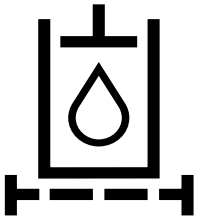
Auxiliary Circuit Pressure warning light is used only on power units in Europe.

PARKING BRAKE ON

Amber light is on whenever the parking brake is engaged. The audible alarm will sound continuously if joystick is out of neutral.

HYDRAULIC OIL FILTER

Amber light will come on and an audible alarm will sound four pulses every five minutes until filter is serviced. Change hydraulic system return filter located in top of hydraulic tank.

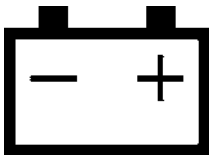


LOW VOLTAGE

Amber light will come on and audible alarm will sound 4 times every 5 minutes when alternator fails to charge.

Check for broken wires, alternator belt, belt tensioner.

Check alternator for failure.

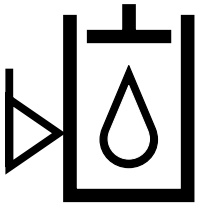


HYDRAULIC OIL LOW

Amber light will come on and an audible alarm will sound continuously when oil level in hydraulic reservoir is low.

Check hydraulic system for leaks.

Add oil to hydraulic system reservoir.



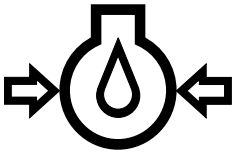
ENGINE TEMPERATURE

Red light comes on and an audible alarm pulsates.

Stop engine and check radiator coolant level after coolant cools down.

ENGINE OIL PRESSURE

Red light comes on and an audible alarm pulsates if oil pressure drops below 20 psi (138 kPa) (1.38 bar).



B

HEATER AND AIR CONDITIONER CONTROLS

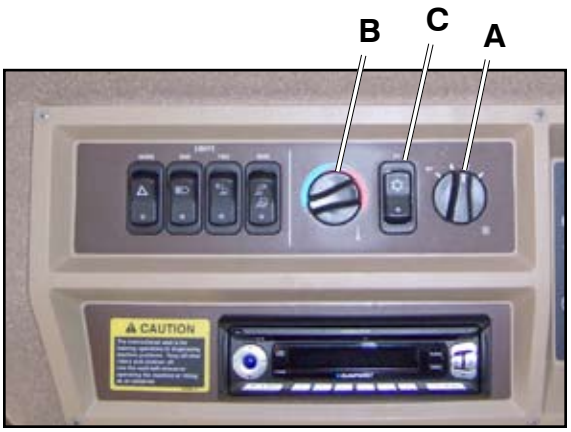
The recirculation fan controls air coming out the louvers. Control knob (A) has three speeds and an "OFF" position. "OFF" is provided for cold weather start-up before engine/ heater comes up to operating temperature.

Air Conditioner and Heater Operation

Turn Temperature Control Knob (B) to achieve the desired temperature. Wait three to four minutes between adjustments for the temperature to stabilize.

The A.C. compressor is controlled by a 2- position rocker switch (C).

Press the upper half of the switch to turn the A.C. compressor on.
Press the lower half of the switch to turn the A.C. compressor off.

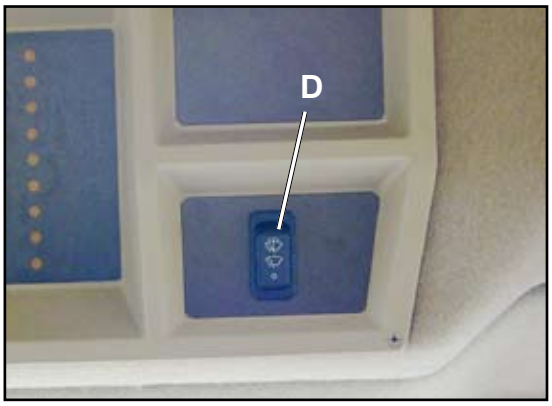


WINDSHIELD WIPER & WASHER SWITCH

The windshield wiper is controlled by a 3-position rocker switch (D).

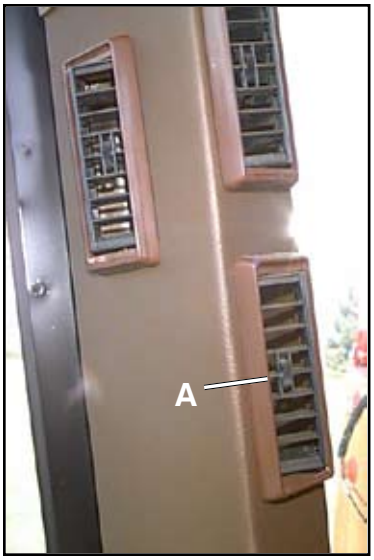
Press the lower half of the switch to turn the wipers off.
Press the upper half of the switch into the center position to turn the wipers on.
Press and hold the upper half of the switch all the way down to spray washer fluid on the window. When the switch is released it will return to the ON position.

The ignition key must be ON for the wiper to function.



AIR LOUVER ADJUSTMENT

Adjust air louvers with tab (A) to avoid damaging them.

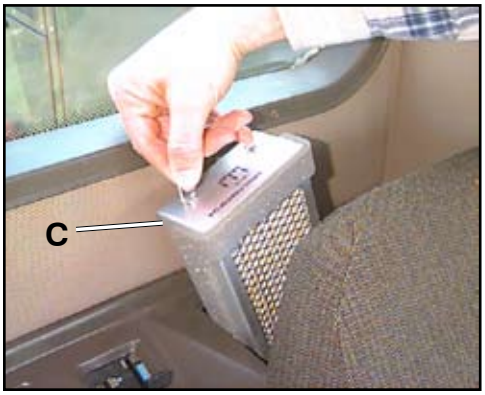


CAB STORAGE BOX

The arm rest lid lifts for storage (B).

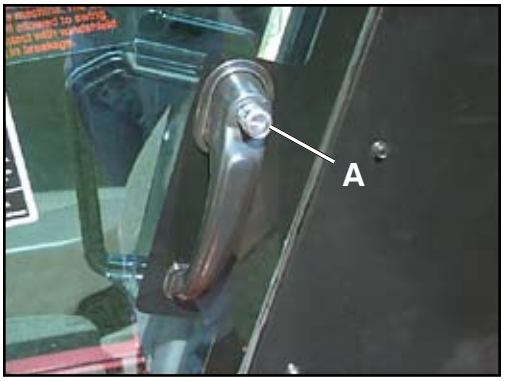
STORAGE TRAY/RECIRCULATION FILTER

A storage tray is located in the left hand rear corner of the cab behind the jump seat. Remove the tray to access the recirculation air filter (C).



CAB DOOR LOCK

This lock (A) uses the start key.



EMERGENCY EXIT

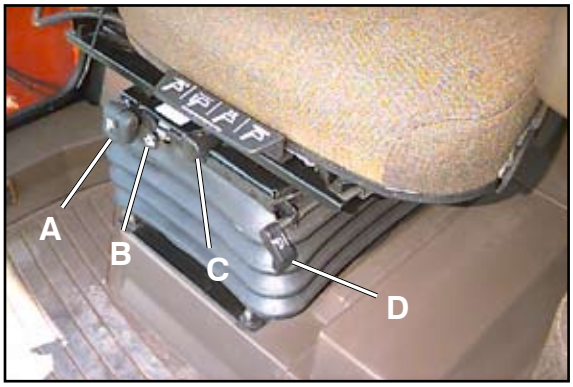
Pull tab (B) to begin removal of rubber rope (C).

Continue to pull until rope is removed from around window. The window can now be pushed out and allowed to fall free.

AIR SUSPENSION SEAT

The seat has a self-contained electric compressor to adjust the seat suspension to match the operator's height and weight. The seat has four main adjustments.

A) Vertical Shock Dampener Control
B) Height Adjustment Knob
C) Fore/Aft Adjustment Knob
D) Fore/Aft Attenuator Lock-Out Handle



Vertical shock dampener control (A) allows the operator to limit the amount of "upward motion" the seat suspension provides. Based on operating conditions, this control has three detent positions.

These three detent positions usually cannot be felt. Push control (A) all the way down for the softest ride. Move the control all the way up for the firmest ride. Between these two positions is the medium firmness position.

Height adjustment is made with a push/pull knob (B). To raise the seat, push in on the knob. To lower the seat, pull out on the knob.

NOTE: The suspension can be adjusted to reach limits in the minimum and maximum heights, which in effect, locks out the suspension system, making it rigid. The suspension height control will also hit the limits if adjusted too close to the extremes.

Fore/aft adjustment control (C) allows the seat to slide forward or rearward for best working position.

Fore/aft attenuator lockout handle (D) locks out or releases the fore/aft movement. Pull up on the handle to lock; push down on the handle to release.

The seat is equipped with a safety switch that automatically shuts down the header if the operator leaves the seat for more than five seconds.

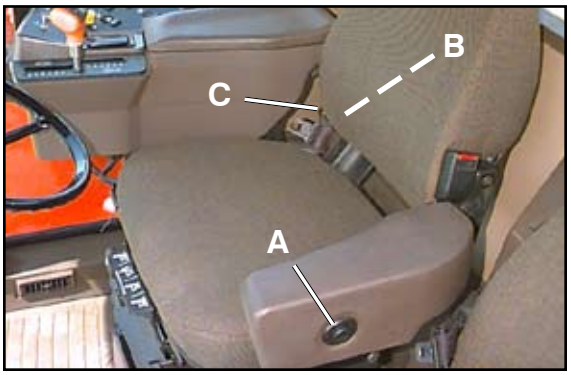
To restart these functions, sit down and turn "Header" switch OFF then ON.

Operator's Station
Air Suspension Seat cont'd.

To raise or lower the left-hand armrest, push button (A).

Slide knob (B) to adjust for lower back support.

Slide knob (C) to adjust seat back angle.

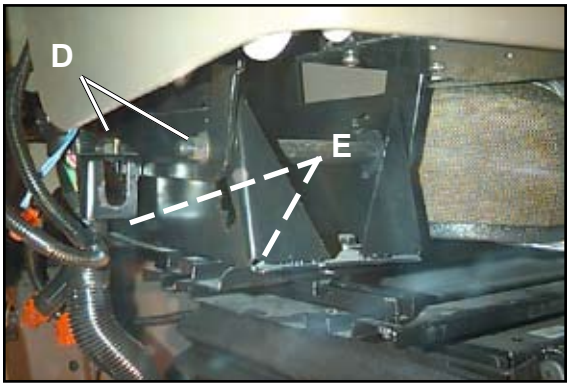


To adjust the right-hand armrest up or down, loosen flange nuts (D) under console. Raise or lower console. Tighten flange nuts.

To adjust the right-hand armrest fore-and-aft, loosen three screws (E).

Slide armrest to desired position and tighten screws.

Armrest will slide approximately 2 in. (51 mm).

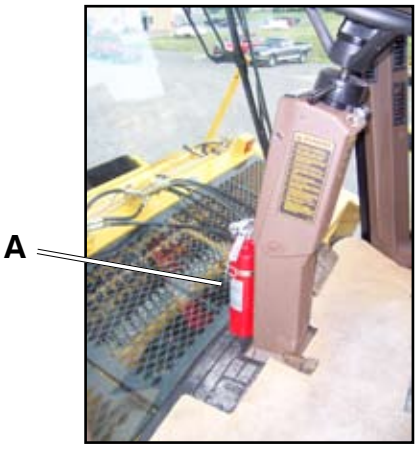


FIRE EXTINGUISHER

In case of an emergency, a fire extinguisher (A) is located on the steering column. Read and follow the instructions on the extinguisher. Shake the fire extinguisher before using for best operation. Always use the extinguisher with the nozzle to the top. Operating the fire extinguisher with the nozzle on the bottom will cause it to become inoperative.

NOTE: If a fire extinguisher has been used, no matter for how long, it must be recharged.

Check the fire extinguisher monthly and recharge as required.



(THIS PAGE LEFT INTENTIONALLY BLANK)

Lights & Signals

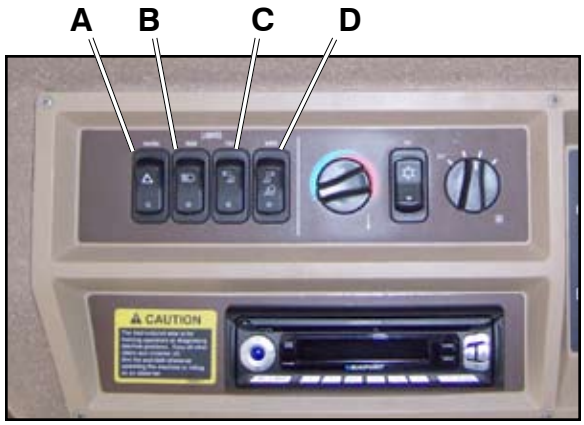
LIGHT SWITCHES

A. Hazard (flashing) lights.

B. Road lights switch.

C. Field lights switch.

D. Work lights switch.



CAUTION: ROAD LIGHTS MUST BE TURNED ON WHEN TRAVELING ON PUBLIC ROADS. (BE SURE TO FOLLOW LOCAL LIGHTING AND MARKING LAWS).

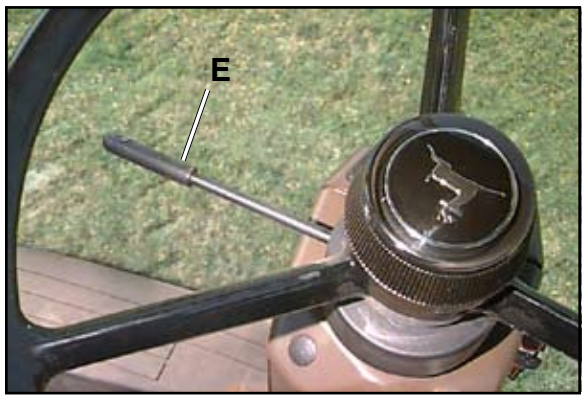
WARNING: NEVER OPERATE THE HARVESTER ON THE ROAD WITH THE WORK LIGHTS TURNED ON. THE WORK LIGHTS MAY BLIND TRAFFIC.

TURN SIGNALS

When operating harvester on road or highway, use turn signals. Move turn signal lever (E) forward to indicate right-hand turn and pull lever back to indicate left-hand turn.

NOTE: The turn signals are not self cancelling so the lever must be moved back to neutral.

NOTE: The indicator light on the steering column glows steadily and indicates a turn.

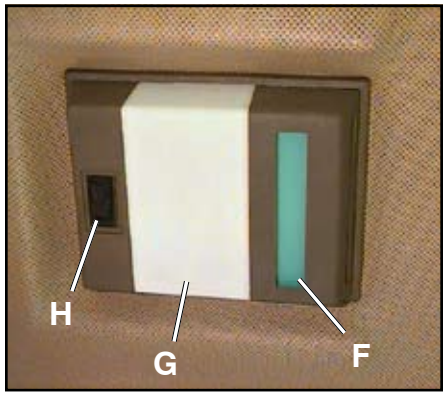


CAB INTERIOR LIGHTS

F. Front console and armrest console light.

G. Dome light.

H. Dome light switch.



(THIS PAGE LEFT INTENTIONALLY BLANK)

Unloading

UNLOADING

If unloading at a dock, make sure the trailer is the same height as the loading dock. The truck must have the parking brake on with wheels chocked. If a dock is not required, make sure the trailer is on a flat, level surface. Remove all chains and straps from the unit. Inflate harvester tires to pressures listed in *Tires & Wheels* section of this manual.

Read *Prestarting Checks* and *Operating the Engine* sections of this manual.

IMPORTANT: MAKE SURE THE ENGINE AIR INLET AND EXHAUST OUTLET ARE UNCOVERED BEFORE STARTING ENGINE.

Harvester should be in first gear, low range. Sound horn and make sure all personnel are clear of machine before starting engine. Start engine and increase speed to about 1800 rpm. Release parking brake and slowly drive unit off trailer.

(THIS PAGE LEFT INTENTIONALLY BLANK)

Prestarting Checks

Before attempting to start the engine for the first time, read and understand the John Deere *PowerTech 8.1 L 6081 OEM Diesel Engines Operation and Maintenance Manual*. This manual has the necessary information required to select the proper fuel, lubricants, and coolants that will keep your engine running at peak performance level. It also contains information regarding other periodic service and maintenance specific to the engine.

PRESTARTING CHECKS

Before starting the engine for the first time each day:

- Check engine oil level. Do not operate engine when oil level is below low mark on dipstick.
- Check engine coolant level. Add coolant as needed.
- Check hydraulic oil level in reservoirs with header on ground and all cylinders retracted. Add oil as needed. Do not overfill.
- Check pump drive gearbox oil level. Add oil as needed. Do not overfill.

(THIS PAGE LEFT INTENTIONALLY BLANK)

Operating the Engine

The DB18 harvester is powered by a John Deere diesel engine. Parts and service for this engine are available from any John Deere industrial or agricultural equipment dealer. Engine warranty service work must be performed by a John Deere industrial or agricultural dealer or a John Deere engine distributor.

Refer to the engine warranty and John Deere operator's manual or call your local John Deere or OXBO International dealer if there are any questions on warranty.

OXBO International dealers can obtain most parts and perform non-warranty service if necessary. Common service items such as fuel filters, engine oil filters, belts, etc. are stock items at an OXBO International dealer.

STARTING THE ENGINE

CAUTION: SOUND HORN BEFORE STARTING ENGINE TO CLEAR PEOPLE AWAY FROM THE HARVESTER.

Start switch is located on right side of steering column.

Key positions are:

First Position.....Off
Second Position.....Accessories
Third Position .....Accessories and Run
Fourth Position .....Start

Turn key to the fourth position to start. When released, it will return to run or third position. If engine will not crank, check to be sure that the hydrostatic ground drive lever is in the neutral position and the parking brake is on.

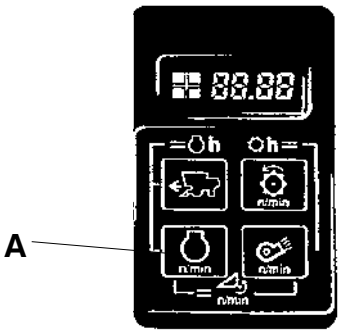
CAUTION: ENGINE EXHAUST FUMES CAN CAUSE SICKNESS OR DEATH. IF IT IS NECESSARY TO RUN AN ENGINE IN AN ENCLOSED AREA, REMOVE THE EXHAUST FUMES FROM THE AREA WITH AN EXHAUST PIPE EXTENSION.

IMPORTANT: IF YOU DO NOT HAVE AN EXHAUST PIPE EXTENSION, OPEN DOORS AND GET OUTSIDE AIR INTO THE AREA.

When the engine starts, press engine RPM symbol (A). Engine will be at 850 rpm at low idle.

For turbocharger lubrication, run engine at low idle for 4 to 5 minutes before applying a load to the engine.

IMPORTANT: ALLOWING SUFFICIENT WARM-UP TIME IS CRITICAL TO AVOID EXCESSIVE WEAR TO ENGINE AND HYDRAULIC COMPONENTS. 4 - 5 MINUTES OF WARM-UP TIME EACH USE COULD SAVE HOURS OF DOWN TIME!



F

ENGINE STARTING AIDS

Use starting aids when the temperature is below 32°F (0°C).

USING THE ENGINE BLOCK HEATER

An engine block heater is provided to preheat the engine coolant.

Insert power cord into socket, taking care to align pins with socket of connector cord. Press firmly into socket.

CAUTION: TO PREVENT SHOCK, ALWAYS USE A GROUNDED 3-WIRE EXTENSION CORD.

Allow slack for engine vibration and protect cord from excessive heat and possible chafing or mechanical damage.

USING STARTING FLUID

DANGER: STARTING FLUID IS EXTREMELY FLAMMABLE. KEEP FLUID AWAY FROM SPARKS OR OPEN FLAMES.

Crank engine several revolutions, then inject starting fluid into the air intake system while cranking the engine.

IMPORTANT: TO AVOID ENGINE DAMAGE, INJECT FLUID ONLY WHEN ENGINE IS COLD AND CRANKING. DO NOT INJECT FLUID FOR MORE THAN ONE OR TWO SECONDS AT A TIME. STOP INJECTING FLUID AFTER ENGINE STARTS AND RUNS SMOOTHLY.

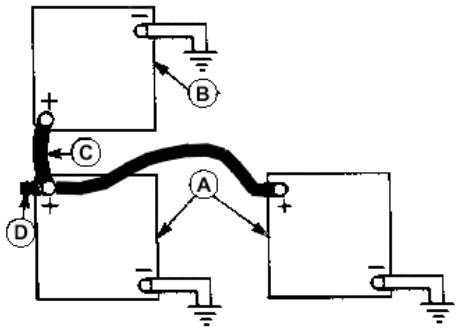
USING A BOOSTER BATTERY OR CHARGER

A 12-volt booster battery can be connected in parallel with the batteries on the power unit to aid in cold weather starting. ALWAYS use heavy duty jumper cables.

CAUTION: GAS GIVEN OFF BY BATTERY IS EXPLOSIVE. KEEP SPARKS AND FLAMES AWAY FROM BATTERY. BEFORE CONNECTING OR DISCONNECTING A BATTERY CHARGER, TURN CHARGER OFF. MAKE LAST CONNECTION AND FIRST DISCONNECTION AT A POINT AWAY FROM THE BATTERY. ALWAYS CONNECT NEGATIVE (-) CABLE LAST AND DISCONNECT THIS CABLE FIRST.

IMPORTANT: BE SURE POLARITY IS CORRECT BEFORE MAKING CONNECTIONS. REVERSED POLARITY WILL DAMAGE ELECTRICAL SYSTEM. ALWAYS CONNECT POSITIVE TO POSITIVE AND NEGATIVE TO GROUND. ALWAYS USE 12-VOLT BOOSTER BATTERY FOR 12-VOLT ELECTRICAL SYSTEMS.

1. Connect booster battery to produce 12 volts.
   NOTE: To avoid sparks, DO NOT allow free ends of jumper cables to touch engine or harvester.
2. Connect one end of jumper cable to POSITIVE (+) post of the booster battery.
3. Connect the other end of the jumper cable to the POSITIVE (+) post of battery connected to starter.
4. Connect one end of the other jumper cable to the NEGATIVE (-) post of the booster battery.
5. ALWAYS complete the hookup by making the last connection of the NEGATIVE (-) cable to a good ground on the engine frame and away from batteries.
6. Start the engine. Disconnect jumper cables immediately after engine starts. Always disconnect NEGATIVE (-) cable first.



A 12-volt power unit batteries
B 12-volt booster battery
C booster cable
D cable to starting motor

STOPPING THE ENGINE

1. Move hydrostatic ground drive lever to neutral and apply parking brake.
2. Lower header to the ground.
3. Before stopping engine that has been operating at working load, insure that all harvester functions are in the OFF position and idle at least two minutes to cool turbocharger.

   IMPORTANT: COOLING OF TURBOCHARGER AND SOME ENGINE PARTS IS PROVIDED BY ENGINE OIL. STOPPING A HOT ENGINE MIGHT CAUSE DAMAGE TO THESE PARTS.

4. Turn key and all other switches off.

CAUTION: REMOVE KEY FROM SWITCH TO PREVENT ACCIDENTS AND BATTERY DISCHARGE.

F

Driving on the Road

Before operating the DB18 harvester on any public road, the following points should be inspected and action taken as required:

1. Make sure brakes are properly adjusted and have adequate stopping power.

2. Check torque on all wheel lug nuts.

3. Make sure all lights required for road travel are in working condition, including road lights, hazard lights and turn signals.

4. Adjust rear view mirrors.

5. Clean excess mud and field debris from machine.

When moving the unit from field to the road, always use 1st gear, low range. Once the unit is on the road, stop and shift into 2nd gear, high range.

Normal engine speed is 2250 rpm when the unit is being driven over the road. To change speed move the hydrostatic ground drive lever.

IMPORTANT: ALWAYS MAINTAIN AT LEAST 2000 RPM TO ENSURE AN ADEQUATE FLOW OF MAKEUP OIL TO THE HYDROSTATIC TRANSMISSION. THIS PREVENTS PUMP DAMAGE OR LOSS OF CONTROL PRESSURE.

Machine speed should be reduced when traveling down hill on a grade of 5% or greater. Never allow engine to exceed 2350 rpm when traveling downhill as overspeeding will cause the engine and ground drive pump to operate beyond their design limits.

WARNING: MACHINE MAY OVERSPEED WHEN GOING DOWNHILL IN ROAD GEAR. TO PREVENT A RUNAWAY CONDITION, SLOW DOWN BY PULLING BACK ON THE HYDROSTATIC GROUND DRIVE LEVER WHEN STARTING DOWN A HILL.

When traveling downhill, speed must be limited as follows:

15% downgrade - Shift to 1st gear, low range, do not exceed 3.5 mph (5.5 km/h).
10% downgrade - Shift to 2nd, low range, do not exceed 5 mph (8 km/h).
8% downgrade - Shift to 1st gear, high range, do not exceed 7.5 mph (12 km/h).
5% downgrade - Do not exceed 15 mph (24 km/h).

If the machine gains speed traveling downhill, reduce engine speed to 2000 rpm, pull back on hydrostatic ground drive lever and apply service brakes to slow down

G

Transporting

TRANSPORTING THE DB18 ON A TRAILER

1. Remove corn or bean header.

2. Start harvester engine, place unit in 1st gear, low range and carefully drive unit onto trailer. Engage parking brake, shut engine off, and install lockout bar.

3. Turn off master electrical switch.

4. If, due to height restrictions, air must be removed from tires, use a suitable means to support the weight of the unit by its axles to prevent tire damage.

5. Securely fasten harvester to trailer using D.O.T. approved devices.

6. Tape exhaust pipe rain cap (A) closed to prevent turbocharger damage.

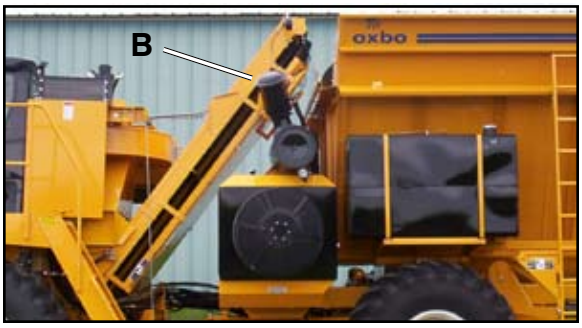
7. Secure a plastic bag over the air intake precleaner (B) to prevent turbocharger damage.

8. Make sure that all doors and access panels are closed and securely fastened.

9. Follow all applicable vehicle and traffic laws. Flashing lights, flags, placards or escorts may be necessary.

10. Remove any components necessary to reduce height, width, and weight to within legal limits.

11. Ensure that dump box is in fully lowered position.



H

TOWING THE DB18

OXBO INTERNATIONAL CORPORATION DOES NOT IN ANY WAY APPROVE TOWING.

If it becomes necessary to remove a DB18 harvester from a public highway, it must be dragged or lifted with a suitable device.

DANGER!! UNDER NO CIRCUMSTANCES SHOULD ANY ATTEMPT BE MADE TO RELEASE THE BRAKES ON A HARVESTER THAT IS NOT RUNNING.

Fuels & Lubricants

DIESEL FUEL

Refer to John Deere *PowerTech 8.1 L 6081 OEM Diesel Engines Operation and Maintenance Manual* for fuel, engine oil and engine coolant recommendations.

FILL FUEL TANK

CAUTION: HANDLE FUEL WITH CARE; IT IS HIGHLY FLAMMABLE. DO NOT REFUEL MACHINE WHILE SMOKING OR WHEN NEAR OPEN FLAME OR SPARKS.

Always stop engine before refueling machine. Before opening fuel filler cap, clean accumulated trash and debris from around the fuel tank filler area.

Always fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

IMPORTANT: THE FUEL TANK IS VENTED THROUGH THE FILLER CAP. IF A NEW FILLER CAP IS REQUIRED, ALWAYS REPLACE IT WITH VENTED CAP.

HYDROSTATIC DRIVE/MAIN HYDRAULIC SYSTEM OIL

Use a good grade of transmission/hydraulic oil. Oil must be of the same type and quality as Mobil 424.

PUMP DRIVE GEARBOX OIL

Units are filled at the factory with SAE 80W-90 gear lube.

GREASE

Any good quality Multipurpose Hi Temperature/Extreme Pressure grease rated NGLI #2 is acceptable.

IMPORTANT: IF GREASE FITTING IS MISSING, REPLACE IMMEDIATELY. CLEAN FITTINGS THOROUGHLY BEFORE USING GREASE GUN.

CAPACITIES

Fuel tank.....120 gal. (454 L)
Cooling System w/Heater.....42 qts. (40 L)
Engine crankcase w/Filter.....20 qts. plus 1 qt. in filter (19 L)
Hydraulic Oil Tank.....45 gal. (170 L)

Lubrication & Maintenance

SERVICE INTERVALS

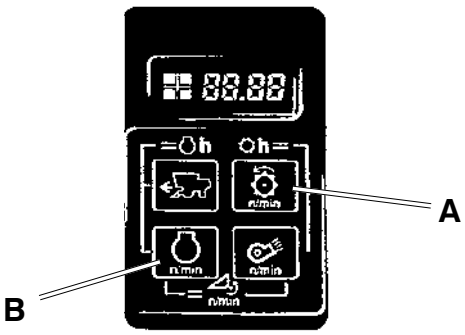
CAUTION: TO PREVENT INJURY, NEVER LUBRICATE OR SERVICE HARVESTER WHILE IT IS RUNNING. ENGINE MUST BE OFF AND MAIN ELECTRICAL DISCONNECT SWITCH SHUT OFF AND LOCKED.

Use hour meter as a guide when servicing the machine.

Every 50 hours of engine operation, the characters SEV1 will appear on the tachometer display indicating service is needed. After completing the service, reset the tachometer by pressing the header rpm (A) and engine rpm (B) tachometer touch pad keys simultaneously and turning the key from the "OFF" position to “ON” (third position).

The service interval timer can also be reset if service is performed between 45 and 50 hours but not prior to 45 hours. If service SEV1 appears, pressing any of the four switches will suppress the message until the next time the ignition switch is turned on.

IMPORTANT: THE SERVICE TIMES ARE FOR AVERAGE CONDITIONS. SERVICE MORE OFTEN IF MACHINE IS USED IN EXTREME CONDITIONS.



J

PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry. Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower header to the ground or use safety stops. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect and lock out main battery switch before doing any work or welding on the power unit.

MAINTENANCE & LUBRICATION SCHEDULES

Maintain and lubricate the harvester components according to the following schedule. The frequencies given are based on normal operating conditions. Severe or unusual conditions may require more frequent attention.

NOTE: Refer to the *John Deere PowerTech 8.1 L 6081 OEM Diesel Engine Operation and Maintenance Manual* for additional required engine maintenance.

J

MAINTENANCE & LUBRICATION SCHEDULE

		Recommended Maintenance Intervals - Hours							
Component	**Action**	**10** (each shift)	**50** (weekly)	**100** (2 weeks)	**250** (monthly)	**500** (3 months)	**1000** (6 months)	**2000** (yearly)	**Notes**
Alternator belt tension	Check		X					X	
Axle gear oil levels	Check	X	X					X	
Axle gear oil	Replace							X	
Axle hub seals	Check							X	
Axle bolts	Check							X	
Battery condition	Check		X					X	See section J
Bearing set screw tightness	Check							X	
Brakes operation	Check	X	X					X	
Brake performance	Test	X	X					X	
Brake caliper operation	Check		X					X	
Brake caliper pads	Check		X					X	
Cab safety switch	Check	X	X					X	
Center section drive shaft bearing	Check		X					X	
Center section pins / bushing	Check							X	
Center section thrust washer shim	Check							X	
Chains tension	Check		X					X	See section J
Chassis	Lubricate	X	X					X	
Cleaning fan drive element	Check		X					X	
Cleaning fan housing liner	Check		X					X	
Cleaning fan paddles / rotor	Check		X					X	
Conveyor belts tension	Check		X					X	
Dump box crank shaft	Check							X	
Dump box pins	Check		X					X	
Dump box pivot bearings	Check							X	
Dump box push rod	Check							X	
Elevator pull cable / pulleys operation	Check	X	X					X	
Engine oil	Check	X	X					X	See J.D. Manual
Engine coolant	Check	X	X					X	See J.D. Manual
Engine oil pressure gauge operation	Check	X	X					X	
Engine temperature gauge operation	Check	X	X					X	
Fuel gauge operation	Check	X	X					X	
Harness / electrical connections	Check							X	
Hydraulic lines / fittings	Inspect							X	
Hydraulic oil level	Check	X	X					X	
Hydraulic oil level sensor	Check							X	
Hydraulic oil return filter	Replace							X	
Hydraulic oil return filter sensor	Check							X	
Hydraulic oil suction filter	Replace							X	
Hydraulic pumps input shaft	Lubricate							X	
Hydraulic system leaks	Check	X	X					X	

MAINTENANCE & LUBRICATION SCHEDULE

		Recommended Maintenance Intervals - Hours							
Component	***Action***	***10*** (each shift)	***50*** (weekly)	***100*** (2 weeks)	***250*** (monthly)	***500*** (3 months)	***1000*** (6 months)	***2000*** (yearly)	***Notes***
Lights operation	Check	X	X					X	
Main frame cracks / fatigue	Check							X	
Master break cylinder operation	Check		X					X	
Neutral start switch operation	Check		X					X	
Nuts and bolts tightness	Check		X					X	See torque Specs
Oil levels	Check	X	X					X	
Parking brake operation	Check	X	X					X	
Parking brake light / alarm	Check	X	X					X	
Parking brake shoes	Inspect							X	
Parking brake shoes	Replace							X	
Pump drive gear oil fluid level	Check	X	X					X	
Pump drive gear oil	Replace							X	
Pump drive coupling	Inspect							X	
Pump drive coupling input shaft	Lubricate		X					X	
Radiator coolant level	Check	X	X					X	
Radiator hoses / clamps condition	Check							X	
Safety shields proper installation	Check	X	X					X	
Shaft seals	Inspect							X	
Shifting linkage operation	Check		X					X	
Sprocket alignment	Check							X	
Transmission gear lube fluid level	Check	X	X					X	
Transmission gear lube	Replace							X	
Transmission motor input shaft	Lubricate							X	
Transmission shift linkage operation	Check							X	
Transmission shift detents operation	Check							X	
Tire pressure	Check		X					X	See Section M
Wheel lug nuts	Check		X					X	See Section M
Voltage gauge operation	Check	X	X					X	

J

ROLLER CHAIN MAINTENANCE

Roller chain drives require proper and timely maintenance to deliver satisfactory performance and service life.

MAINTENANCE

Chains must be maintained as follows:

1. The drive is correctly lubricated.
2. Drive interferences are eliminated.
3. Damaged chains and sprockets are replaced.
4. Worn chains and sprockets are replaced.
5. The sprockets are properly aligned.
6. The chain is properly tensioned.
7. Guards are in good condition and properly installed.

A roller chain drive should be inspected after the *first* 50 hours of operation. Following this, an inspection should be conducted every 100 hours of operation.

LUBRICATION

For manual lubrication, be sure that the lubrication schedule is being followed. If the chain is dirty, clean it with kerosene or a nonflammable solvent and lubricate it. It is very important to lubricate the pins and bushing surfaces which articulate with each other while the chain is under full load. Lubrication is also required between the rollers and bushing. To reach all these surfaces, the lubricant is applied to the upper edges of the link plates on the lower strand of the chain shortly before the chain engages the sprocket. For manual lubrication, oil is applied periodically with a brush or spout can, preferably once every eight (8) hours of operation.

DRIVE INTERFERENCES

Inspect for any evidence of interferences between drive components and other parts of the equipment. If any is found, correct it immediately. Rubbing between the chain or sprockets and other parts of the machine can cause abnormal wear and damage. Impact between the chain link plates and a rigid object can cause link plate fatigue and chain failure.

DAMAGED CHAIN OR SPROCKETS

Inspect chains for cracked, broken, deformed, or corroded parts and for tight joints or turned pins. If any are found, locate the cause of the damage and replace the entire chain. Inspect sprockets for chipped, broken, or deformed teeth. If any are found, locate and correct the cause of the damage and replace the sprocket. Do not run a new chain on worn-out sprockets; this can cause the chain to fail prematurely.

CHAIN WEAR

In most roller chain drives, the chain is considered worn out when it reaches 3% wear elongation. With 3% wear, the chain does not engage the sprocket properly and can cause sprocket damage or chain breakage.

CHAIN TENSION

Proper chain tension is essential. For a check of chain tension, turn one sprocket to tighten the lower strand of the chain, then measure the sag of the upper strand. The sag, measured at the midpoint of the upper strand, should be approximately two to three percent of the length of the tangent to the sprockets.

CAUTION: TO PREVENT INJURY, NEVER SERVICE ROLLER CHAIN DRIVES WHILE HARVESTER IS RUNNING. ENGINE MUST BE OFF AND MAIN ELECTRICAL DISCONNECT SWITCH SHUT OFF AND LOCKED.

SERVICING BATTERIES

CAUTION: BATTERY GAS CAN EXPLODE. KEEP SPARKS AND FLAMES AWAY FROM BATTERIES. USE A FLASHLIGHT TO CHECK BATTERY ELECTROLYTE LEVEL.

IMPORTANT: NEVER CHECK BATTERY CHARGE BY PLACING A METAL OBJECT ACROSS THE POSTS. USE A VOLTMETER OR HYDROMETER.

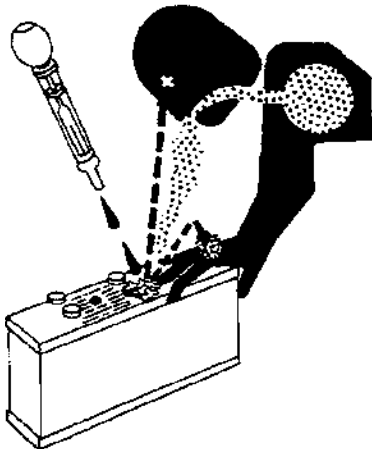
IMPORTANT: ALWAYS REMOVE GROUNDED NEGATIVE (-) BATTERY CLAMP FIRST AND REPLACE IT LAST.

It is important to check the battery electrolyte level at the recommended service interval.

Refer to the battery information sheet for the correct procedure required to check battery electrolyte level.

In freezing weather, run engine at least 30 minutes to assure thorough mixing after adding water to battery.

CAUTION: SULFURIC ACID IN BATTERY ELECTROLYTE IS POISONOUS. IT IS STRONG ENOUGH TO BURN SKIN, EAT HOLES IN CLOTHING, AND CAUSE BLINDNESS IF SPLASHED INTO EYES.



Avoid the hazard by:

1. **Filling batteries in a well-ventilated area.**
2. **Wearing eye protection and rubber gloves.**
3. **Avoiding breathing fumes when electrolyte is added.**
4. **Avoiding dripping or spilling electrolyte.**
5. **Use proper jump start procedure.**

If you spill acid on yourself:

1. **Flush your skin with water.**
2. **Apply baking soda or lime to help neutralize the acid.**
3. **Flush your eyes with water for 10-15 minutes. Get medical attention immediately.**

If acid is swallowed:

1. **Do not induce vomiting.**
2. **Drink large amounts of water or milk, but do not exceed 2 L (2 qt.).**
3. **Get medical attention immediately.**

J

Keep batteries clean by wiping them with a damp cloth.

Keep all connections clean and tight. Remove any corrosion, and wash terminals with a solution of one part baking soda and four parts water. Tighten all connections securely.

NOTE: Coat battery terminals and connectors with a mixture of petroleum jelly and baking soda to retard corrosion.

Keep battery fully charged, especially during cold weather. If a battery charger is used, turn charger off before connecting charger to batteries. Attach POSITIVE (+) battery charger lead to POSITIVE (+) battery post. Then attach the NEGATIVE (-) battery charger lead to the ground.

SEAT BELTS

Inspect all seat belts and mounting hardware, on both operator's seat and training seat, at least once per year.

If seat belt system (including mounting hardware, buckle, belt or retractor) shows any sign of damage (such as cuts, fraying, extreme or unusual wear, discoloration or abrasion) the entire seat belt should be replaced immediately.

For your safety, replace the seat belt system with replacements parts approved for your machine.

OPERATOR'S SEAT

TRAINING SEAT

J

(THIS PAGE LEFT INTENTIONALLY BLANK)

Harvesting System

CONVEYOR BELTS

Conveyor belts should not run any tighter than necessary to prevent undue stress to the belt lacing, rollers, and bearings.

DANGER: TO AVOID PERSONAL INJURY, NEVER ATTEMPT TO ADJUST ANY CONVEYORS WHILE THE ENGINE IS RUNNING. AN IMMEDIATE HAZARD EXISTS WHICH WILL RESULT IN A HIGH PROBABILITY OF DEATH OR SEVERE PERSONAL INJURY IF THE WARNING IS IGNORED AND PROPER SAFETY PRECAUTIONS ARE NOT TAKEN.

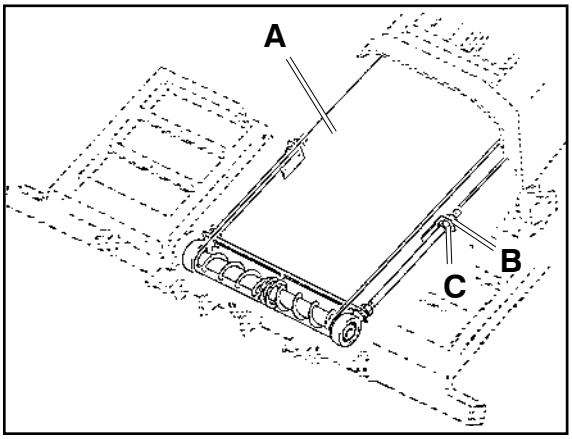
WARNING: MAKE SURE ALL DRIVES ARE IN NEUTRAL, THE ENGINE IS SHUT OFF, THE PARKING BRAKE IS ON, AND THE MASTER DISCONNECT SWITCH IS IN THE OFF POSITION BEFORE MAKING ANY ADJUSTMENTS. DEATH OR SEVERE PERSONAL INJURY CAN OCCUR.

INTAKE CONVEYOR BELT

The intake belt (A) adjustment is located on each side of the intake assembly, attached to the idler roller assembly. To adjust the intake belt, perform the following procedures:

1. Loosen the jam nut (B).
2. Turn the adjusting nut (C) clockwise to tighten.
3. Retighten the jam nut (B).
4. Repeat for the opposite side of the roller.

NOTE: Be sure to adjust both sides equally and do not overtighten the jam nuts.



K

PRODUCT ELEVATOR BELT

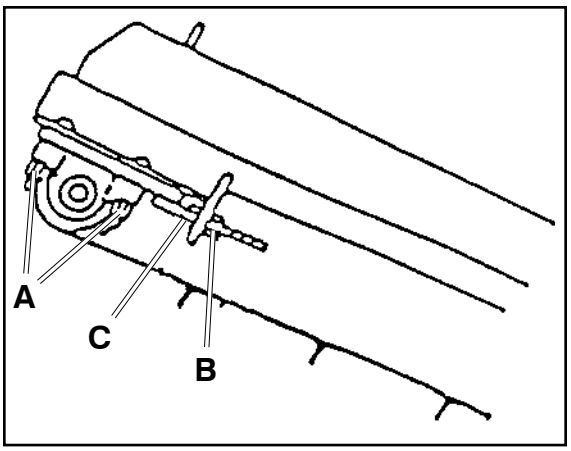
The product elevator belt should not be run any tighter than is necessary to prevent undue stress to the belt, lacing, rollers, and bearings.

WARNING: TO AVOID PERSONAL INJURY, NEVER ATTEMPT TO UNPLUG OR ADJUST ANY CONVEYOR WHILE THE ENGINE IS RUNNING.

Adjust the product conveyor belt as follows:

1. Loosen the bearing bolts (A).
2. Loosen the jam nut (B) on the adjusting bolt.
3. Turn the adjusting bolt (C) to tighten the belt.
4. Start the engine and engage the product elevator belt. After observing the belt, disengage it and shut off the engine.
   - If the belt does not rotate, repeat Step 3.
   - If the belt rotates, proceed to Step 5.
5. Tighten the belt further by rotating the adjusting bolt (C) two more revolutions.
6. Retighten the jam nut (B) and bearing bolts (A).
6. Repeat for the opposite side of the roller.

NOTE: Be sure to adjust both sides equally.



K

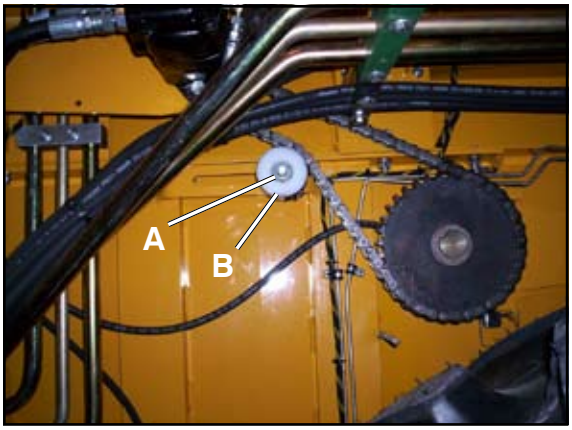
CONVEYOR DRIVE CHAIN

The harvester conveyor drives are driven with one hydraulic motor and one continuous chain as shown in the illustration at right. Note the location of the chain tension adjusting bolt (A).

Adjust the conveyor drive chain as follows:

1. Raise the header.
2. Shut the engine off and engage parking brake.
3. Place header cylinder stop into position.
4. Loosen nut (A).
6. Slide plastic chain tightener(B) up or down until desired tension is reached.
7. Retighten nut (A.)

WARNING: TO AVOID PERSONAL INJURY, BE SURE ALL DRIVES ARE IN NEUTRAL AND THE ENGINE IS SHUT OFF BEFORE MAKING ANY ADJUSTMENTS.



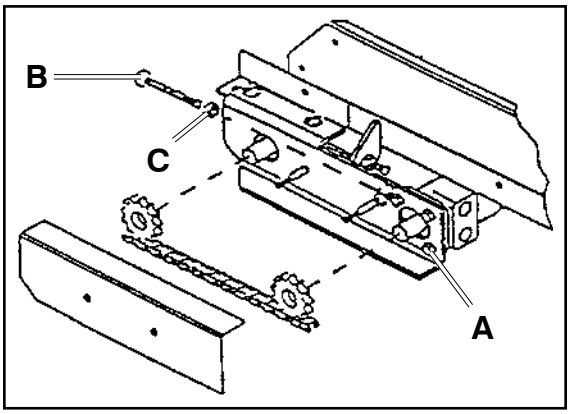
K

ELEVATOR CHAIN DRIVE

WARNING: NEVER MAKE ANY ADJUSTMENTS WHILE THE HARVESTER IS RUNNING. ALWAYS SHUT HARVESTER OFF, SET PARKING BRAKE, AND REMOVE KEY PRIOR TO MAKING ADJUSTMENTS.

Adjust the elevator chain drive as follows:

1. Remove the shield.
2. Loosen the elevator motor bolts (A).
3. Loosen the locknut (C).
4. Adjust the bolt (B) until the proper tension is achieved.
5. Tighten the locknut (C).
6. Tighten the elevator motor bolts (A).
7. Replace the shield.



WARNING: TO AVOID PERSONAL INJURY, BE SURE ALL DRIVES ARE IN NEUTRAL AND THE ENGINE IS SHUT OFF BEFORE MAKING ANY ADJUSTMENTS.

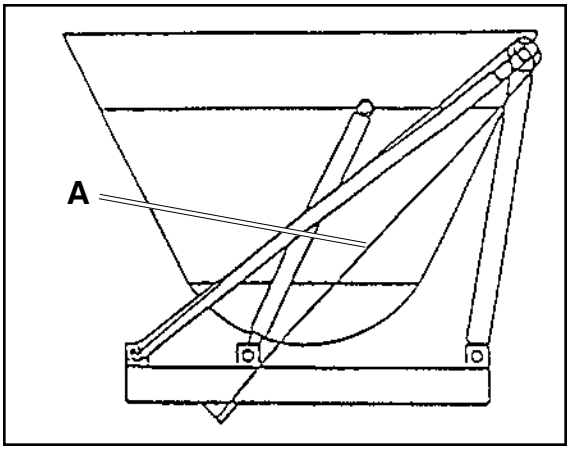
K

ELEVATOR PULL CABLE

IMPORTANT: THE ELEVATOR PULL CABLE SHOULD NOT CARRY THE WEIGHT OF THE ELEVATOR WHEN THE DUMP BOX IS DOWN.

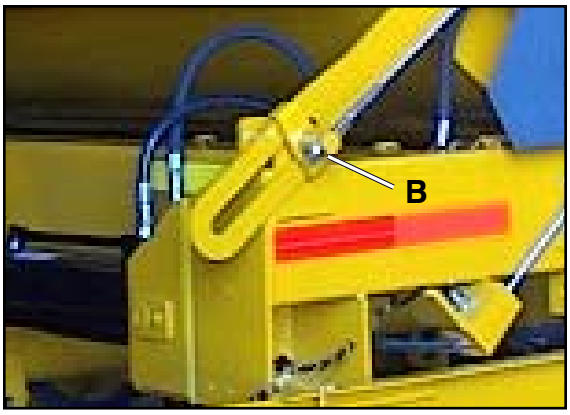
Adjust the elevator pull-cable (A) as follows:

1. Retract the dump box completely and be sure the dump box frame is in the lowest position.



2. Turn the adjust nut (B) clockwise to tighten the cable.

   NOTE: Do not overtighten. Tighten just enough to remove any slack.



K

(THIS PAGE LEFT INTENTIONALLY BLANK)

Electrical System

BATTERIES

The DB18 harvester has two batteries (12-volt attached in parallel. Batteries are negative grounded only. Reversed polarity at battery or alternator connections will result in permanent damage to the electrical system.

For further information, refer to the *New Castle Battery Information Sheet.*

CAUTION: BEFORE CONNECTING OR DISCONNECTING BATTERY CABLES, MAKE SURE ALL SWITCHES AND LIGHTS ARE TURNED OFF. ALWAYS CONNECT THE POSITIVE (+) TERMINAL FIRST TO PREVENT ARCING. INJURY OR DAMAGE COULD RESULT.

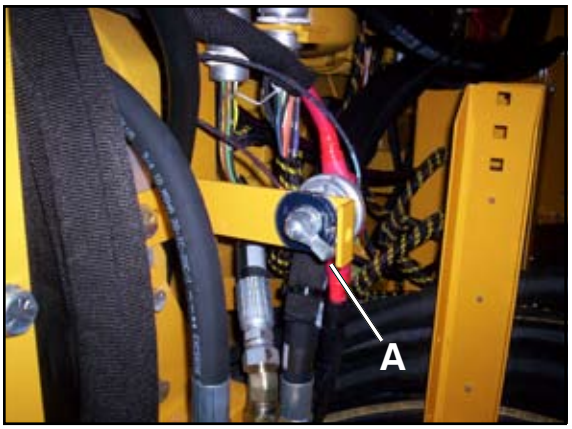
Keep the top of the batteries clean and the battery terminals tight and free of corrosion.

WARNING: HYDROGEN GAS PRODUCED BY BATTERIES IS EXPLOSIVE. PREVENT INJURY OR DAMAGE BY AVOIDING SPARKS. DO NOT SMOKE NEAR THE BATTERIES, ESPECIALLY WHEN BATTERIES ARE BEING CHARGED.

REMOTE BATTERY DISCONNECT SWITCH

The Remote Battery Disconnect Switch (A) is located on the left side of the harvester near the engine. Always disconnect battery from electrical system when performing any maintenance on machine to prevent someone from inadvertently starting the unit. This also prevents unauthorized operation of the machine when it is not being used. The disconnect switch may be secured with a padlock. Always lock switch when working on machine.

NOTE: The battery disconnect switch is not an emergency stop switch for the engine. If the switch is disconnected while the engine is running, the engine will continue to run on alternator output.

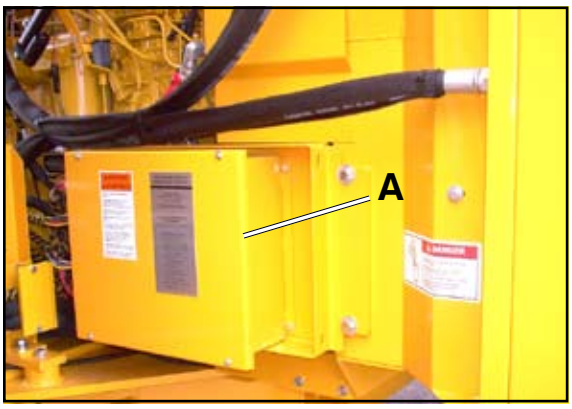


L

ELECTRICAL BOXES

The main electrical box (A) is located on the front side of the engine. The secondary electrical control box (B) is located adjacent to the catwalk, next to the cab. The boxes contain the control relays and circuit breakers for all the machine control circuits.

IMPORTANT: KEEP CONTROL BOX DOORS TIGHTLY CLOSED. DO NOT SPRAY ANY WATER DIRECTLY AT THE BOXES OR THE CONNECTORS. DO NOT ALLOW ANY WATER TO GET INTO THE BOXES.



L

Electrical Schematic

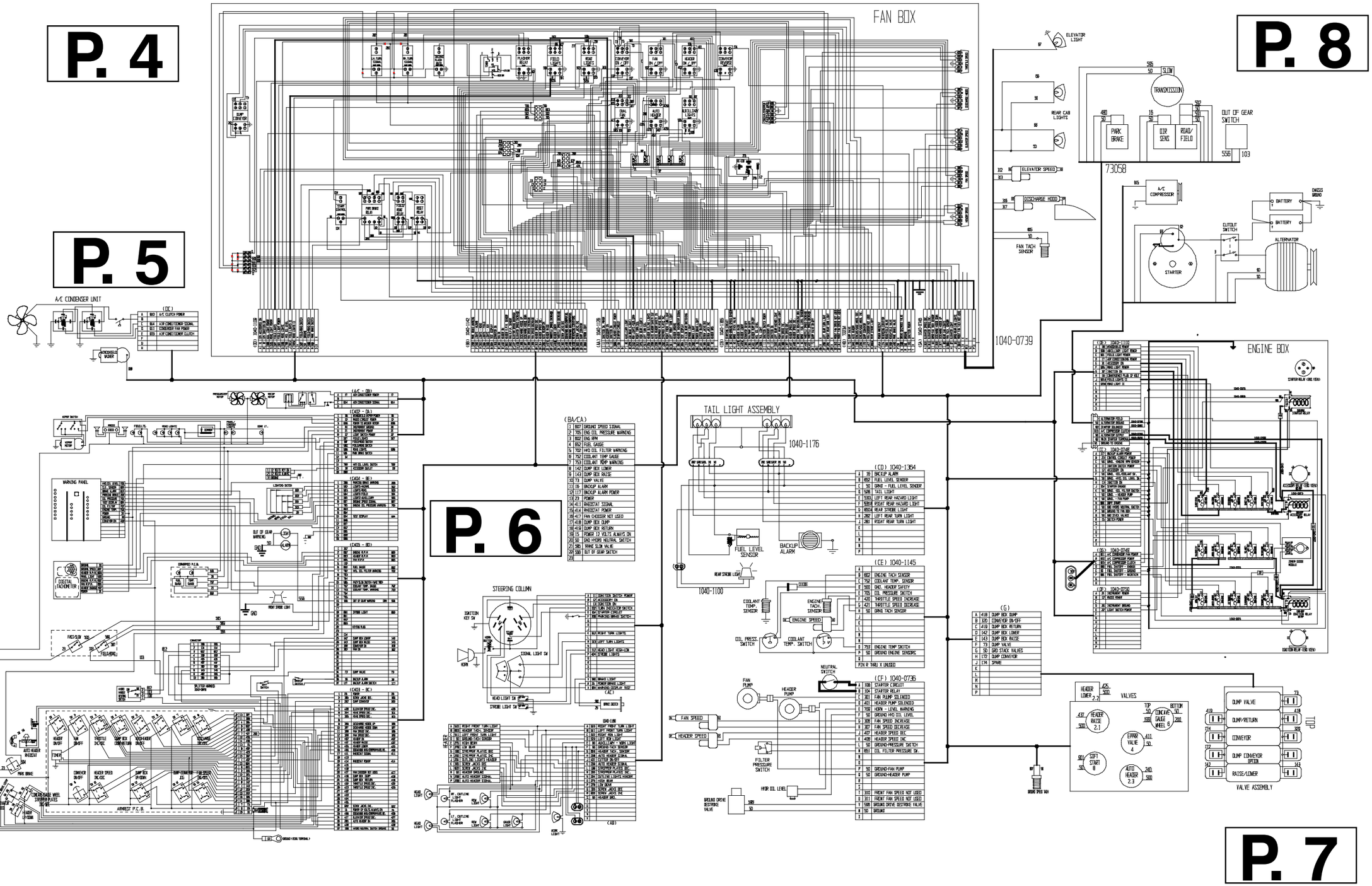
P. 4

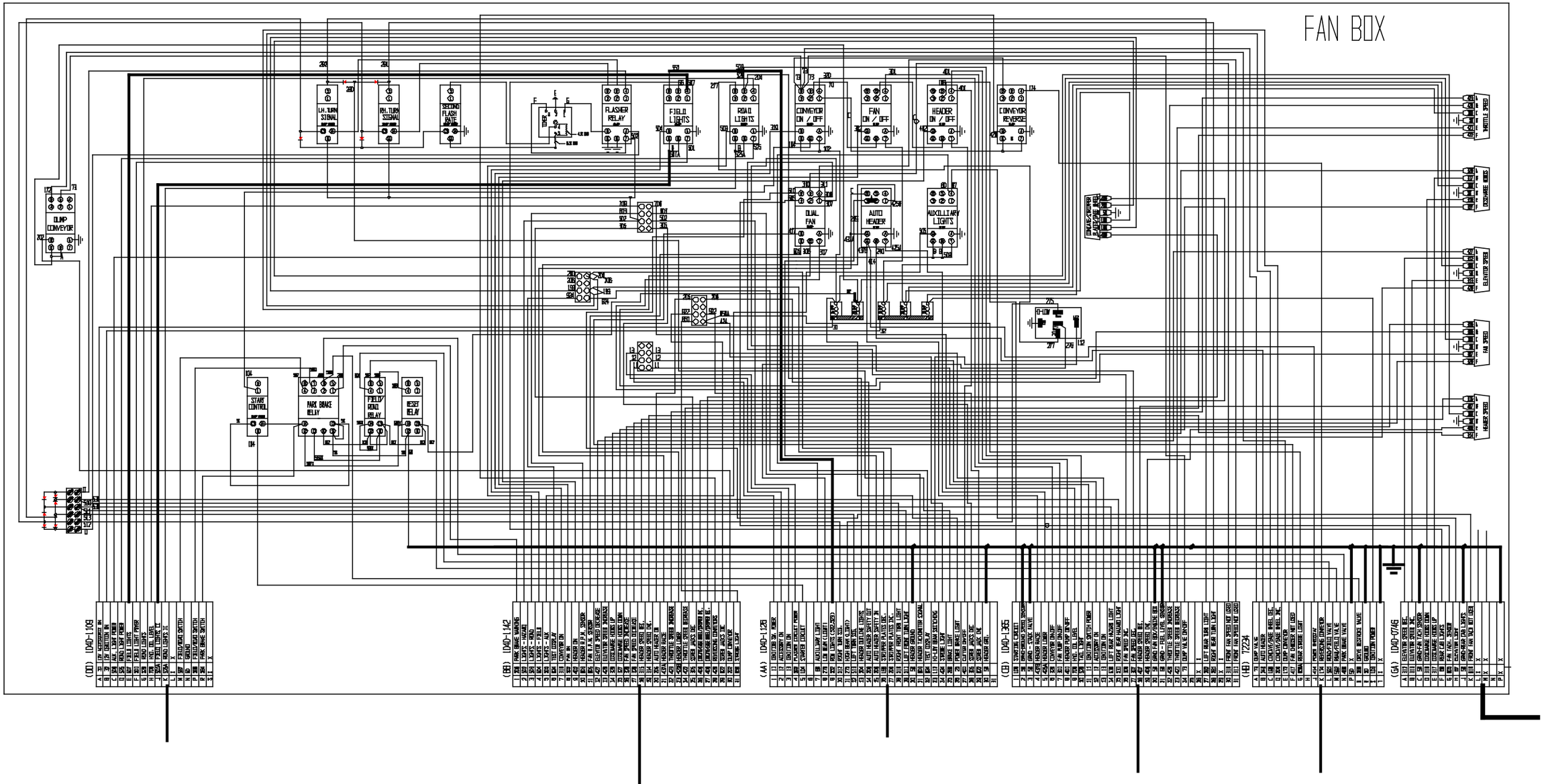
P. 5

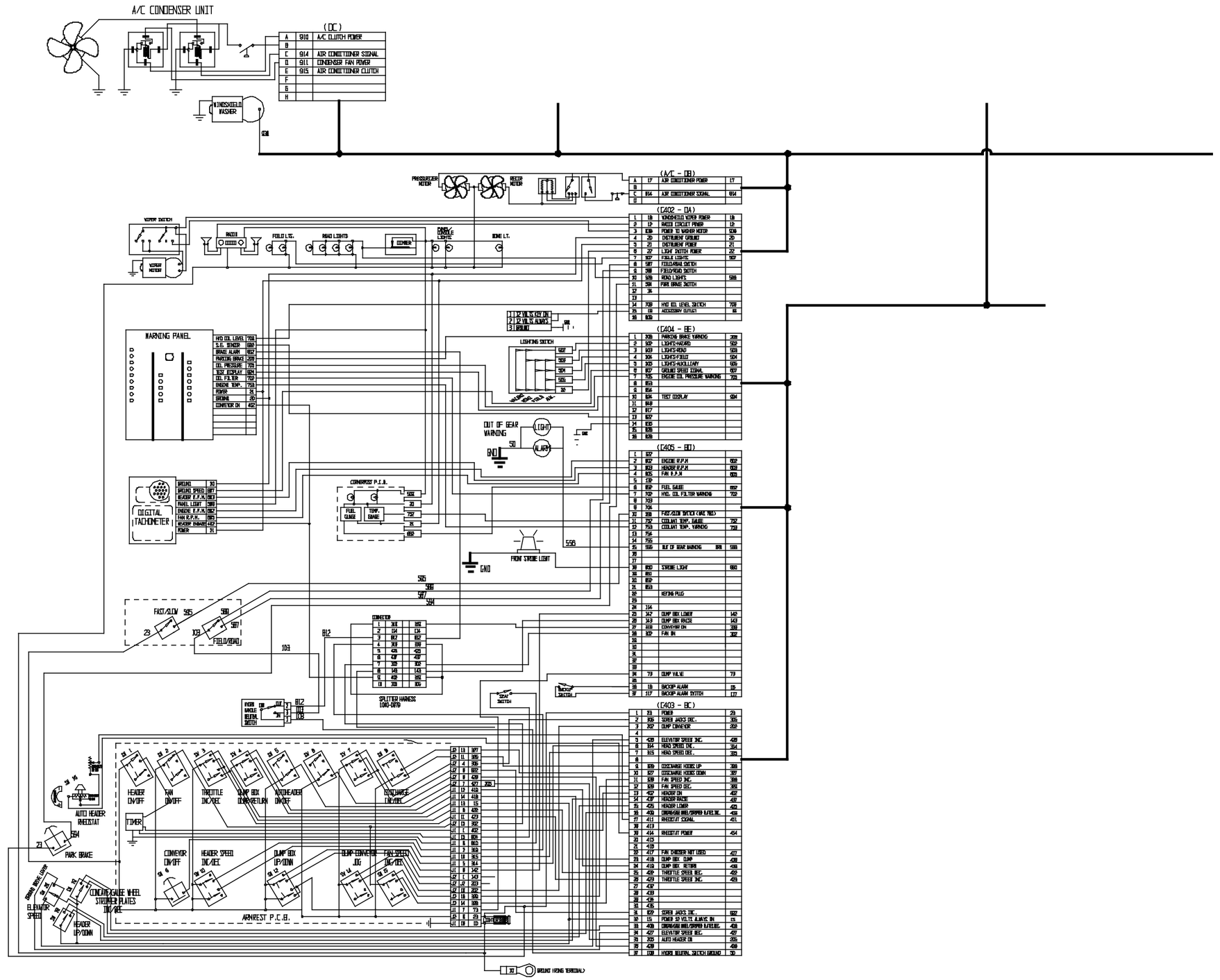
P. 6

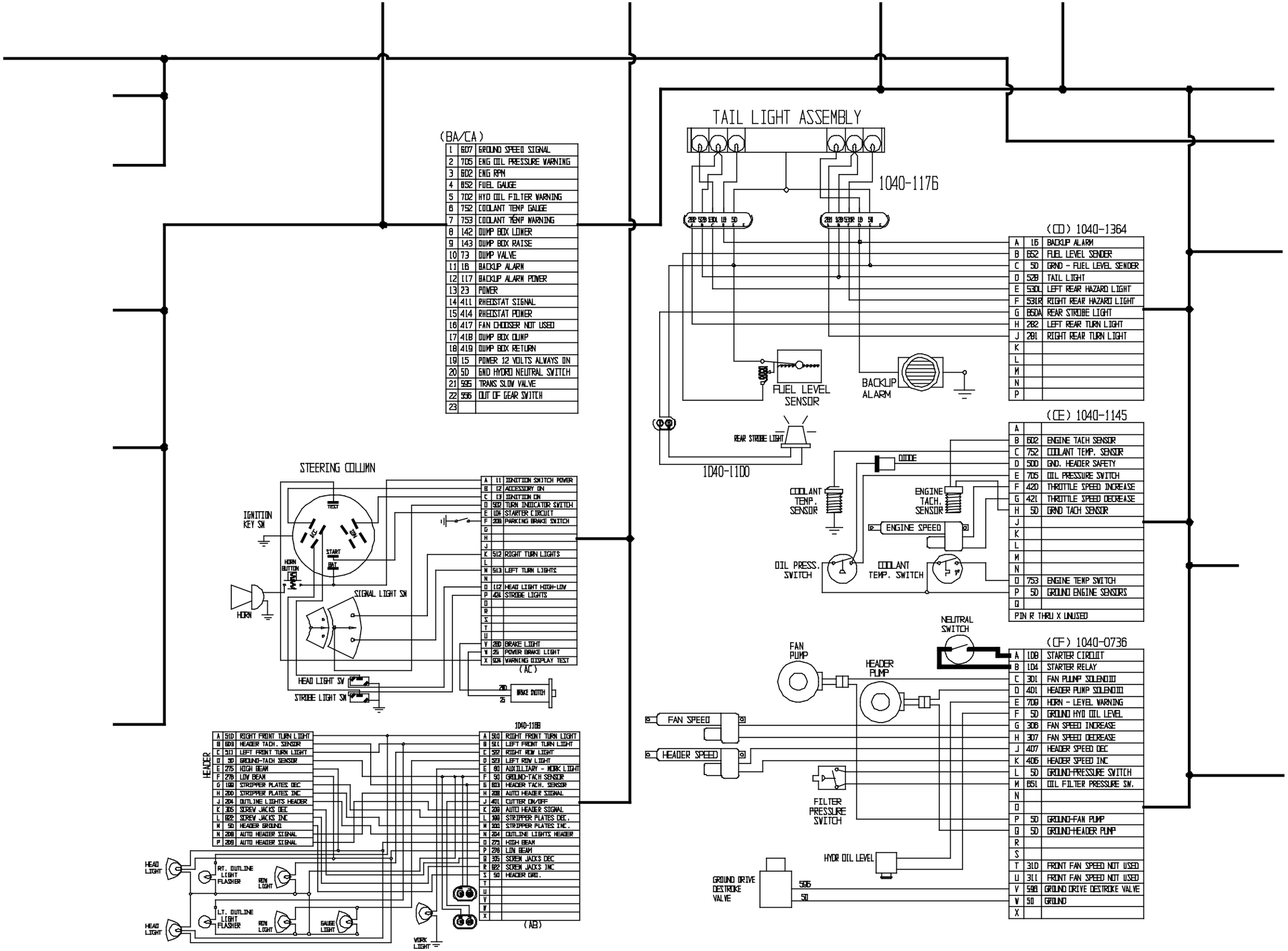
P. 7

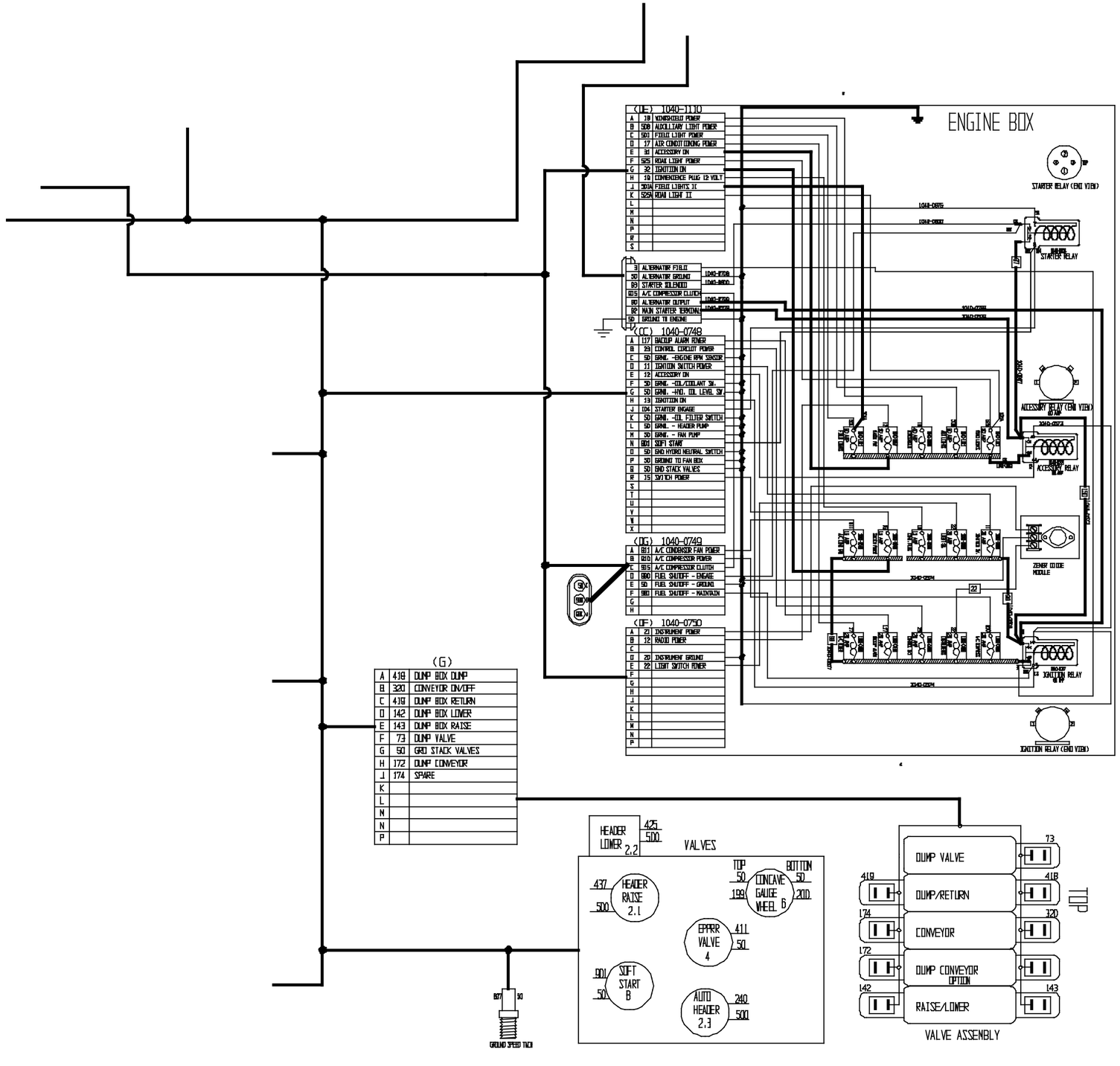
P. 8

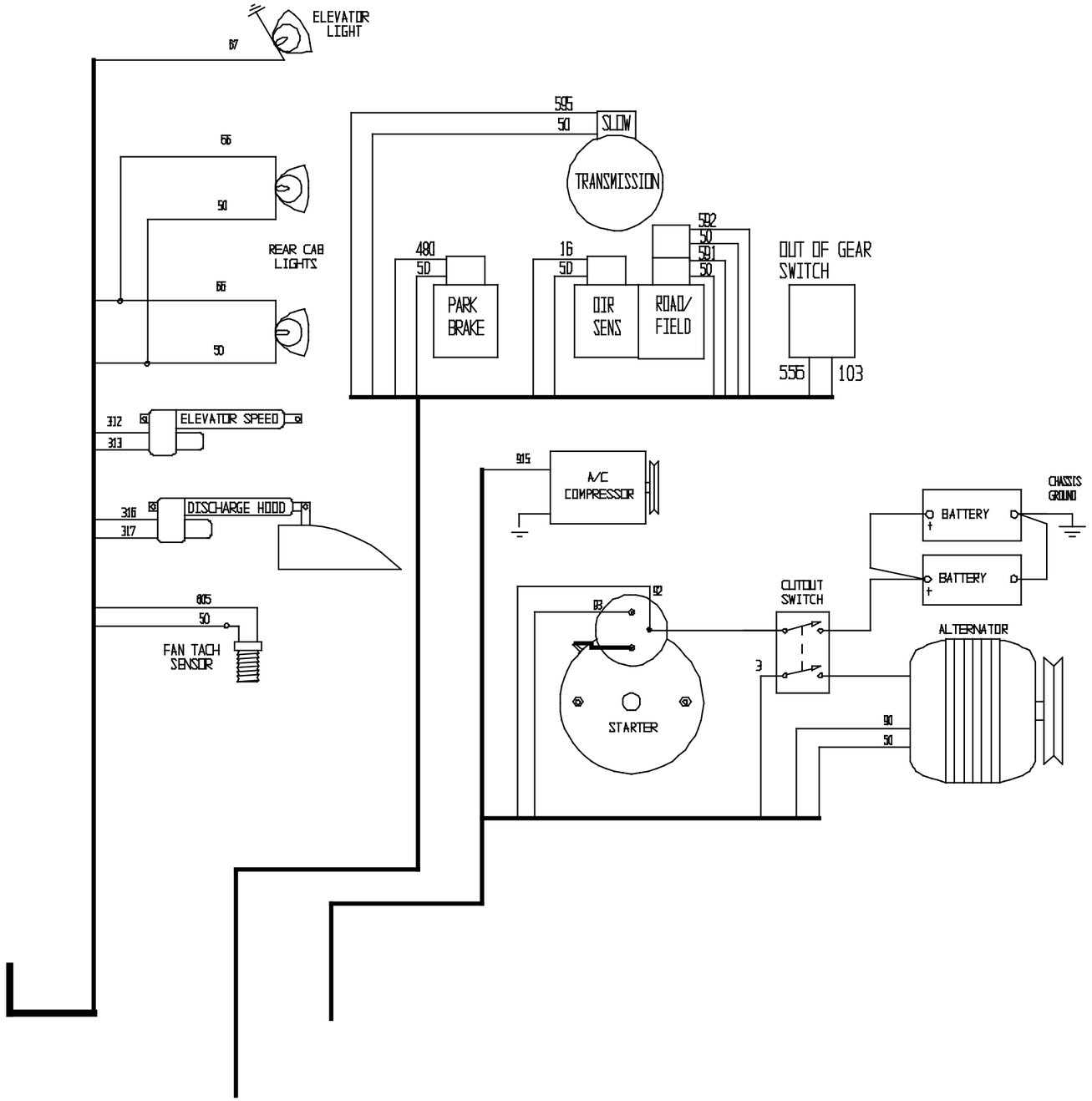



FAN BOX
LH. TURN SIGNAL
RH. TURN SIGNAL
SECOND FLASH RATE
FLASHER RELAY
FIELD LIGHTS
ROAD LIGHTS
CONVEYOR ON / OFF
FAN ON / OFF
HEADER ON / OFF
CONVEYOR REVERSE
DUMP CONVEYOR
DUAL FAN
AUTO HEADER
AUXILLIARY LIGHTS
START CONTROL
PARK BRAKE RELAY
FIELD RING RELAY
RESET RELAY
(DD) 1040-1109
(BB) 1040-1142
(AA) 1040-1251
(CC) 1040-1333
(HH) 72234
(GG) 1040-0746


A/C CONDENSER UNIT
(DC)
A 910 A/C CLUTCH POWER
C 914 AIR CONDITIONER SIGNAL
D 911 CONDENSER FAN POWER
E 915 AIR CONDITIONER CLUTCH
WINDSHIELD WASHER
928
(A/C - DB)
A 17 AIR CONDITIONER POWER 17
C 914 AIR CONDITIONER SIGNAL 914
(DA02 - DA)
1 18 WINDSHIELD WIPER POWER 18
2 19 RADIO CIRCUIT POWER 19
3 E18 POWER TO WASHER MOTOR 536
4 20 INSTRUMENT GROUND 20
5 21 INSTRUMENT POWER 21
6 22 LIGHT SWITCH POWER 22
7 507 FIELD LIGHTS 507
8 587 FIELD/ROAD SWITCH
9 588 FIELD/ROAD SWITCH
10 588 ROAD LIGHTS 588
11 584 PARK BRAKE SWITCH
12 34
13
14 709 HYD OIL LEVEL SWITCH 709
15 18 ACCESSORY OUTLET 18
16 B20
WIPER SWITCH
WIPER MOTOR
RADIO
FIELD LTS.
ROAD LIGHTS
TIMER
PARK/CAB LIGHTS
DOME LT.
PRESSURIZER MOTOR
HEATER MOTOR
WARNING PANEL
HYD OIL LEVEL 709
S.E. SENSOR 689
BRAKE ALARM 1617
PARKING BRAKE 2419
OIL PRESSURE 709
TEST DISPLAY 1694
OIL FILTER 7129
ENGINE TEMP. 7539
POWER 24
SIRENE 25
CONVEYOR ON 402
1 12 VOLTS KEY ON
2 12 VOLTS ALWAYS
3 GROUND
LIGHTING SWITCH
(DA04 - BE)
1 30B PARKING BRAKE WARNING 30B
2 52D LIGHTS-HAZARD 52D
3 503 LIGHTS-HEAD 503
4 30A LIGHTS-TAILS 30A
5 30D LIGHTS-AUXILLIARY 505
6 807 GROUND SPEED SENSE 807
7 7135 ENGINE OIL PRESSURE WARNING 709
8 B23
9 694
10 694 TEST DISPLAY
11 B48
12 817
13 837
14 K05
15 928
16 628
OUT OF GEAR WARNING
50
GND
LIGHT
ALARM
(DA05 - BE)
1 837
2 802 ENGINE R.P.M.
3 803 HEADER R.P.M.
4 805 FAN R.P.M.
5 C2D
6 858 FUEL GAUGE
7 709 HYD. OIL FILTER WARNING
8 709
9 704
10 B38 FAST/SLOW SWITCH (ONE WIRE)
11 752 COOLANT TEMP. GAUGE
12 753 COOLANT TEMP. WARNING
13 754
14 755
15 555 OUT OF GEAR WARNING 888
16
17
18 K40 STROBE LIGHT
19 K43
20 K02
21 B23
22 KEYING PLUG
23
24 114
25 147 DUMP BOX LOWER
26 149 DUMP BOX RAISE
27 A48 CONVEYOR
28 32D FAN ON
29
30
31
32
33
34 79 DUMP VALVE
35
36 19 BACKUP ALARM
37 517 BACKUP ALARM SWITCH
DIGITAL TACHOMETER
ENGINE R.P.M.
HEADER R.P.M.
FAN R.P.M.
POWER
CONVEYOR P.C.B.
FUEL GAUGE
TEMP. GAUGE
FRONT STROBE LIGHT
GND
FAST/SLOW
FIELD/ROAD
SPLITTER HARNESS (DA03-DB79)
HYDRO OIL GAUGE NEUTRAL SWITCH
SEAT SWITCH
BACKUP SWITCH
(DA03 - BC)
1 23 POWER 23
2 30G SERIES JACKS DEC. 30G
3 32F DUMP CONVEYOR 032
4
5 42B ELEVATOR SPEED INC. 42B
6 31A HEAD SPEED INC. 31A
7 31B HEAD SPEED DEC. 31B
8
9 30B DISCHARGE HORNS UP 30B
10 30F DISCHARGE HORNS DOWN 30F
11 30B FAN SPEED INC. 30B
12 30B FAN SPEED DEC. 30B
13 42F HEADER DN 42F
14 42F HEADER RAISE 42F
15 42G HEADER LOWER 42G
16 43A CONVEYOR REV/STOPPED R/REV. 43A
17 41A RHEOSTAT SIGNAL 41A
18 41B
19 41A RHEOSTAT POWER 41A
20 41B
21 41B
22 42F FAN CHOOSER NOT USED 42F
23 41A DUMP BOX DUMP 43B
24 41A DUMP BOX RETURN 43A
25 42D THROTTLE SPEED DEC. 42D
26 42G THROTTLE SPEED INC. 42G
27 43F
28 43B
29 43A
30 43G
31 B22 SERIES JACKS INC. B22
32 15 POWER 30 VOLTS ALWAYS IN 15
33 43A CONVEYOR REV/STOPPED R/REV. 43A
34 42F ELEVATOR SPEED DEC. 42F
35 32G AUTO HEADER ON 32G
36 42B 42B
37 D2B HYDRO NEUTRAL SWITCH GROUND 30
SW 1 HEADER DN/OFF
SW 2 FAN DN/OFF
SW 3 THROTTLE INC/DEC
SW 4 DUMP BOX DUMP/RETURN
SW 5 AUTOHEADER DN/OFF
SW 7 DISCHARGE DN/OFF
SW 8 CONVEYOR DN/OFF
SW 9 HEADER SPEED INC/DEC
SW 10 DUMP BOX UP/DOWN
SW 11 DUMP CONVEYOR FAN SPEED INC/DEC
SW 12 CONCENTRATOR WHEEL STRIPPER PLATES IN/OUT
SW 13 HEADER UP/DOWN
SW 14 ELEVATOR SPEED
SW 15 ENGINE RPM CONTROL
SW 16 AUTO HEADER RHEOSTAT
TIMER
AUTO HEADER RHEOSTAT
PARK BRAKE
ARMREST P.C.B.
GROUND STUD (TERMINAL)


(BA/CA)
1 607 GROUND SPEED SIGNAL
2 705 ENG OIL PRESSURE WARNING
3 602 ENG RPM
4 852 FUEL GAUGE
5 702 HYD OIL FILTER WARNING
6 752 COOLANT TEMP GAUGE
7 753 COOLANT TEMP WARNING
8 142 DUMP BOX LOWER
9 143 DUMP BOX RAISE
10 73 DUMP VALVE
11 16 BACKUP ALARM
12 117 BACKUP ALARM POWER
13 23 POWER
14 411 RHEOSTAT SIGNAL
15 414 RHEOSTAT POWER
16 417 FAN CHOOSER NOT USED
17 418 DUMP BOX DUMP
18 419 DUMP BOX RETURN
19 15 POWER 12 VOLTS ALWAYS ON
20 5D GND HYDRO NEUTRAL SWITCH
21 595 TRANS SLOW VALVE
22 596 OUT OF GEAR SWITCH
23
TAIL LIGHT ASSEMBLY
1040-1176
(CD) 1040-1364
A 16 BACKUP ALARM
B 652 FUEL LEVEL SENDER
C 5D GRND - FUEL LEVEL SENDER
D 528 TAIL LIGHT
E 530L LEFT REAR HAZARD LIGHT
F 530R RIGHT REAR HAZARD LIGHT
G 650A REAR STROBE LIGHT
H 282 LEFT REAR TURN LIGHT
J 281 RIGHT REAR TURN LIGHT
K
L
M
N
P
FUEL LEVEL SENSOR
BACKUP ALARM
REAR STROBE LIGHT
1040-1100
(CE) 1040-1145
A
B 602 ENGINE TACH SENSOR
C 752 COOLANT TEMP. SENSOR
D 500 GND. HEADER SAFETY
E 705 OIL PRESSURE SWITCH
F 420 THROTTLE SPEED INCREASE
G 421 THROTTLE SPEED DECREASE
H 5D GRND TACH SENSOR
J
K
L
M
N
O 753 ENGINE TEMP SWITCH
P 5D GROUND ENGINE SENSORS
Q
PIN R THRU X UNUSED
DIODE
COOLANT TEMP. SENSOR
ENGINE TACH. SENSOR
ENGINE SPEED
OIL PRESS. SWITCH
COOLANT TEMP. SWITCH
STEERING COLUMN
IGNITION KEY SW
HORN BUTTON
HORN
SIGNAL LIGHT SW
HEAD LIGHT SW
STROBE LIGHT SW
BRAKE SWITCH
(AC)
A L1 IGNITION SWITCH POWER
B L2 ACCESSORY ON
C L3 IGNITION ON
D 512 TURN INDICATOR SWITCH
E 104 STARTER CIRCUIT
F 208 PARKING BRAKE SWITCH
G
H
J
K 512 RIGHT TURN LIGHTS
L
M 513 LEFT TURN LIGHTS
N
O 112 HEAD LIGHT HIGH-LOW
P 424 STROBE LIGHTS
Q
R
S
T
U
V 280 BRAKE LIGHT
W 25 POWER BRAKE LIGHT
X 624 WARNING DISPLAY TEST
NEUTRAL SWITCH
(CF) 1040-0736
A 108 STARTER CIRCUIT
B 104 STARTER RELAY
C 301 FAN PUMP SOLENOID
D 401 HEADER PUMP SOLENOID
E 709 HORN - LEVEL WARNING
F 5D GROUND HYD OIL LEVEL
G 306 FAN SPEED INCREASE
H 307 FAN SPEED DECREASE
J 407 HEADER SPEED DEC
K 406 HEADER SPEED INC
L 5D GROUND-PRESSURE SWITCH
M 851 OIL FILTER PRESSURE SW.
N
O
P 5D GROUND-FAN PUMP
Q 5D GROUND-HEADER PUMP
R
S
T 310 FRONT FAN SPEED NOT USED
U 311 FRONT FAN SPEED NOT USED
V 598 GROUND DRIVE DESTROKE VALVE
W 511 GROUND
X
FAN PUMP
HEADER PUMP
FAN SPEED
HEADER SPEED
FILTER PRESSURE SWITCH
HYDR OIL LEVEL
GROUND DRIVE DESTROKE VALVE
595
5D
1040-1100
HEADER
A 510 RIGHT FRONT TURN LIGHT
B 609 HEADER TACH. SENSOR
C 511 LEFT FRONT TURN LIGHT
D 5D GROUND-TACH SENSOR
E 275 HIGH BEAM
F 276 LOW BEAM
G 102 STRIPPER PLATES DEC
H 200 STRIPPER PLATES INC
J 204 OUTLINE LIGHTS HEADER
K 305 SCREW JACKS DEC
L 822 SCREW JACKS INC
M 5D HEADER GROUND
N 208 AUTO HEADER SIGNAL
P 209 AUTO HEADER SIGNAL
A 510 RIGHT FRONT TURN LIGHT
B 511 LEFT FRONT TURN LIGHT
C 592 RIGHT REAR LIGHT
D 523 LEFT REAR LIGHT
E 60 AUXILLIARY - WORK LIGHT
F 5D GROUND-TACH SENSOR
G 609 HEADER TACH. SENSOR
H 208 AUTO HEADER SIGNAL
J 401 CUTTER ON/OFF
K 206 AUTO HEADER SIGNAL
L 100 STRIPPER PLATES DEC.
M 300 STRIPPER PLATES INC.
N 204 OUTLINE LIGHTS HEADER
O 275 HIGH BEAM
P 276 LOW BEAM
Q 305 SCREW JACKS DEC
R 822 SCREW JACKS INC
S 5D HEADER GRD.
T
U
V
W
X
(AB)
HEAD LIGHT
RT. OUTLINE LIGHT FLASHER
RUN LIGHT
LT. OUTLINE LIGHT FLASHER
RUN LIGHT
BAUBE LIGHT
WORK LIGHT


ENGINE BOX
(E) 1040-1110
A 18 WINDSHIELD POWER
B 506 AUXILLIARY LIGHT POWER
C 501 FIELD LIGHT POWER
D 37 AIR CONDITIONING POWER
E 30 ACCESSORY ON
F 525 REAR LIGHT POWER
G 32 IGNITION ON
H 18 CONVENIENCE PLUG 12 VOLT
J 304 FIELD LIGHTS II
K 525A REAR LIGHT II
B ALTERNATOR FIELD
SD ALTERNATOR GROUND
89 STARTER SOLENOID
105 A/C COMPRESSOR CLUTCH
80 ALTERNATOR OUTPUT
82 MAIN STARTER TERMINAL
SD GROUND TO ENGINE
(C) 1040-0748
A 117 BACKUP ALARM POWER
B 33 CONTROL CIRCUITS POWER
C SD GRND. -ENGINE RPM SENSOR
D 11 IGNITION SWITCH POWER
E 12 ACCESSORY ON
F SD GRND. -OIL/COOLANT SW.
G SD GRND. -HYD. OIL LEVEL SW.
H 13 IGNITION ON
J 104 STARTER ENGAGE
K SD GRND. -OIL FILTER SWITCH
L SD GRND. - HEADER PUMP
M SD GRND. - FAN PUMP
N 801 SOFT START
O SD GRND HYDRO NEUTRAL SWITCH
P SD GROUND TO FAN BOX
Q SD END STACK VALVES
R 15 SWITCH POWER
(DG) 1040-0749
A 881 A/C CONDENSER FAN POWER
B 870 A/C COMPRESSOR POWER
C 105 A/C COMPRESSOR CLUTCH
D 880 FUEL SHUTOFF - ENGAGE
E SD FUEL SHUTOFF - GROUND
F 580 FUEL SHUTOFF - MAINTAIN
(DF) 1040-0750
A 21 INSTRUMENT POWER
B 12 RADIO POWER
D 20 INSTRUMENT GROUND
E 22 LIGHT SWITCH POWER
STARTER RELAY (END VIEW)
STARTER RELAY
ACCESSORY RELAY (END VIEW)
ACCESSORY RELAY
ZENER DIODE MODULE
IGNITION RELAY (END VIEW)
IGNITION RELAY
(G)
A 418 DUMP BOX DUMP
B 320 CONVEYOR ON/OFF
C 419 DUMP BOX RETURN
D 142 DUMP BOX LOWER
E 143 DUMP BOX RAISE
F 73 DUMP VALVE
G 501 GRD STACK VALVES
H 172 DUMP CONVEYOR
J 174 SPARE
HEADER LOWER 2.2
425
500
VALVES
437
HEADER RAISE 2.1
500
TOP
50
199
CONCAVE GAUGE WHEEL B
BOTTON
50
200
EPPRR VALVE 4
411
50
801
50
SOFT START B
AUTO HEADER 2.3
240
500
GROUND SPEED TACH
DUMP VALVE
DUMP/RETURN
CONVEYOR
DUMP CONVEYOR OPTION
RAISE/LOWER
73
418
320
143
419
174
172
142
TOP
VALVE ASSEMBLY


ELEVATOR LIGHT
87
595
50
SLOW
TRANSMISSION
66
50
REAR CAB LIGHTS
66
50
480
50
PARK BRAKE
16
50
DIR SENS
ROAD/ FIELD
592
50
591
50
OUT OF GEAR SWITCH
556
103
312
313
ELEVATOR SPEED
316
317
DISCHARGE HOOD
915
A/C COMPRESSOR
CHASSIS GROUND
BATTERY
+
BATTERY
+
605
50
FAN TACH SENSOR
92
93
CUTOUT SWITCH
3
ALTERNATOR
STARTER
90
50

Hydraulic System

HYDRAULIC SYSTEM (GENERAL INFORMATION)

The performance and reliability of these machines are directly related to the condition of the hydraulic systems. The most common cause of component failure is contamination in the system. Always use good quality clean oil and change oil at the recommended intervals described in the maintenance section of this manual.

There are two types of hydraulic systems. The pumps for these systems are powered by a gearbox mounted on the back of the engine.

The hydrostatic system operates the ground drive and header drive. The open-loop pressure-compensating system operates the steering cylinders, brake system and harvesting system.

The machine has a single pressurized (to 5 psi [0.34 bar]) reservoir which supplies oil to all hydraulically powered systems. The reservoir has a built in return filter which filters all the oil that returns to the reservoir. The filter head assembly has a 25 psi (172 kPa) (1.7 bar) bypass. Change the filter at the recommended service interval.

GROUND DRIVE

The ground drive circuit is powered by the pump on the lower, left-hand side of the gearbox. The pump is infinitely variable from zero to full stroke. The displacement is controlled with a servo control system using manual control.

HEADER DRIVE

The header drive circuit is powered by the pump on the upper, left-hand side of the gearbox. The pump is infinitely variable from zero to full stroke.

FAN DRIVE

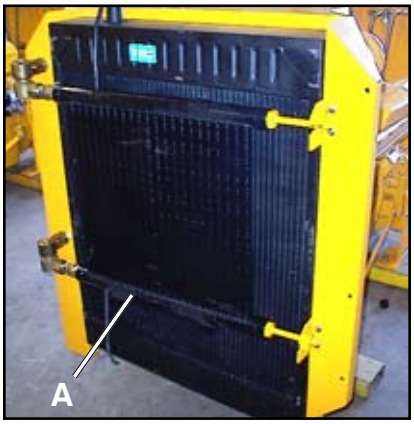
The fan drive circuit is powered by the pump on the upper, right-hand side of the gearbox. The pump is infinitely variable from zero to full stroke. The displacement is controlled with a servo control system using manual control.

PRESSURE COMPENSATED

The steering, brakes and harvesting circuits are powered by the pump on the lower, right-hand side of the gearbox. The pump is infinitely variable from zero to full stroke.

OIL COOLER

The oil cooler (A) is located in front of the engine radiator. The entire hydraulic system is cooled by this cooler. It is important to keep the oil cooler core clean and free of obstructions for proper cooling.



STEERING CIRCUIT

Steering is controlled by a gerotor-type rotary valve connected to the base of the steering column. Steering pressure is directed to two double-acting steer cylinders at the center of the machine.

BRAKES

Individual right and left service brake pedals actuate the power brake valve.

Parking brakes are applied or released by a solenoid actuated three-way directional valve which directs auxiliary system pressure to spring-applied parking brake cylinders.

IMPORTANT: ALWAYS LOCK BRAKE PEDALS TOGETHER FOR ROAD TRAVEL.

TRANSMISSION MOTOR

A 2 speed transmission is equipped with a variable displacement piston motor. Shifting is done with hydraulic pressure. The motor is equipped with a 12 VDC coil to shift between maximum and minimum displacement as well as a pressure compensated control with brake defeat. The brake defeat function uses a pilot signal to defeat the pressure compensator and prevent motor overspeed when hydrostatic braking occurs.

PRESSURE TESTING & ADJUSTING HYDRAULIC SYSTEM

Before attempting to test or adjust the hydraulic system, perform these basic troubleshooting steps to ensure that the hydraulic system is in normal operating condition:

1. Make sure the hydraulic tank is filled with oil to the proper level.
2. Check the condition of all filters and replace if necessary.
3. Check for and eliminate all hydraulic fluid leaks.
4. Make sure that all system components are at normal operating temperatures (120° - 160° F, 50° - 70° C).
5. Make sure the oil cooler air inlet is clean and the core will allow air to pass through.
6. Check to see that any mechanical connections to hydraulic components are functioning properly (drive shaft, couplings, control cables, linkages, etc.)
7. Look for kinked or pinched hoses and replace as necessary.
8. Make sure electrical connections and related electrohydraulic components are in good condition.

WARNING: HYDRAULIC FLUID ESCAPING UNDER PRESSURE CAN PENETRATE THE SKIN, CAUSING SERIOUS INJURY. IF ANY FLUID IS ACCIDENTALLY INJECTED UNDER THE SKIN, IT MUST BE SURGICALLY REMOVED BY A DOCTOR WITHIN A FEW HOURS OR GANGRENE MAY RESULT.

M

Pressure Testing & Adjusting Hydraulic System cont'd.

The following equipment is necessary to test and adjust the hydraulic circuits and components:

1. 0-6000 psi (0 - 410 bar) pressure gauge (liquid filled recommended) P/N 41548
2. Diagnostic female coupler, P/N 40794 (Parker # PD 242, Aeroquip # FD 90-1021-04-04, or equivalent)
3. Hose adapter, 1/4" NPT female to -4 37° flare male, P/N 45626
4. Hose assembly, 1/4" SAE 100R2 x 1/4" NPT male both ends x 144" (366 cm) long, P/N 41905
5. Adapter, -10 ORFS to 1/4" NPT female, P/N 46683

NOTE: When working on hydraulic systems, refer to hydraulic system schematics at the end of this section.

CAUTION: USE EXTREME CARE WHEN TAKING PRESSURE READINGS OR MAKING ADJUSTMENTS WITH ENGINE RUNNING. ALWAYS STAND CLEAR OF THE MACHINE TO THE FULL LENGTH OF THE TEST HOSE WHEN READING GAUGE SO YOU WOULD BE AWAY FROM THE WHEELS IF THE MACHINE SHOULD MOVE INADVERTENTLY.

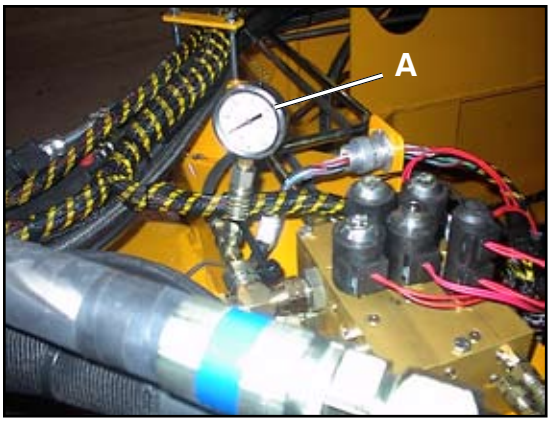
IMPORTANT: WHENEVER IT IS NECESSARY TO DISCONNECT ANY HYDRAULIC LINE OR COMPONENT FOR TEST PURPOSES, TAKE EXTREME CARE NOT TO ALLOW ANY DIRT TO ENTER THE SYSTEM. CLEAN THE AREA THOROUGHLY BEFORE BREAKING THE CONNECTION.

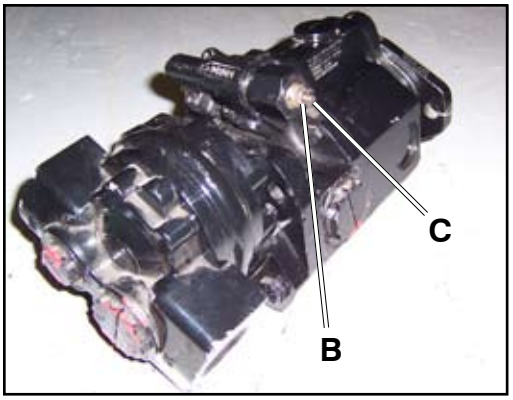
PRESSURE COMPENSATING PUMP

1. Connect the 0-6000 psi (410 bar) gauge to the test port (A) on the hydraulic float valve.

2. With engine running at half throttle and all functions turned off, pressure should be at least 2100 psi (143 bar) ± 50 psi (3.5 bar).

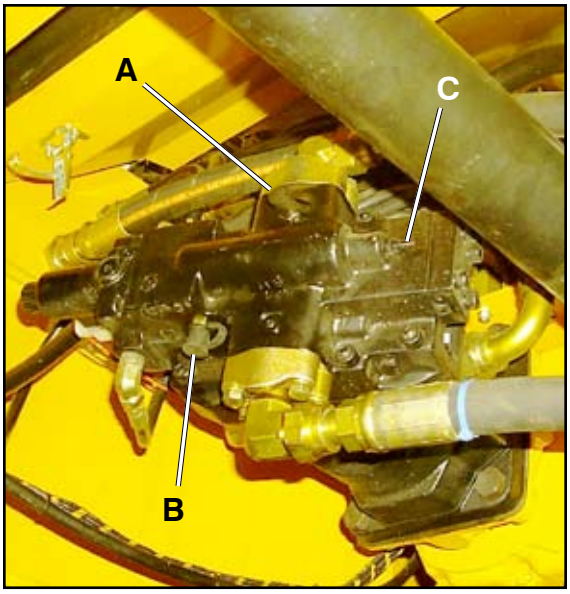
3. Adjust pressure as follows:
   Loosen jam nut (B) and turn adjusting screw (C) until pressure reads at least 2100 psi (143 bar) ± 50 psi (3.5 bar). Re-tighten jam nut.





TRANSMISSION MOTOR PRESSURE

MOTOR & CONTROL CIRCUIT TEST



1. Connect a 0 - 10,000 psi (0 - 680 bar) gauge to the 12 ft. (366 cm) test hose and connect the hose to diagnostic fitting at *port M1* (A) on the motor. Connect a second 0 - 10,000 psi (0 - 680 bar) gauge to a 12 ft. (366 cm) test hose and connect the hose to diagnostic fitting at *port M4* (B) on the motor.

   WARNING: MAKE SURE THE 12 FT. GAUGE HOSES ARE LONG ENOUGH SO THAT THE PERSON(S) READING THE GAUGES CAN KEEP OUT OF THE TIRE PATH. FAILURE TO DO SO COULD RESULT IN PERSONAL INJURY OR DEATH.

2. Make sure parking brake is ON.

3. Start engine and test pressure under the following conditions:

   (a) Field/Road switch in ROAD position.
   (b) Range switch in the HI position.

4. Slowly move joystick to forward position while watching the gauges. As pump flow increases, gauge pressure will rise at *port M1* (A). When pressure reaches the servo control valve setting, the spool will shift and gauge pressure will rise at *port M4* (B). At this time *port M1* pressure should read 4700 to 4800 psi (320 to 327 bar).

5. This indicates the pump pressure at which the motor displacement will automatically begin to increase.

6. If the observed shift pressure is out of the specified range, a control start adjustment is required.

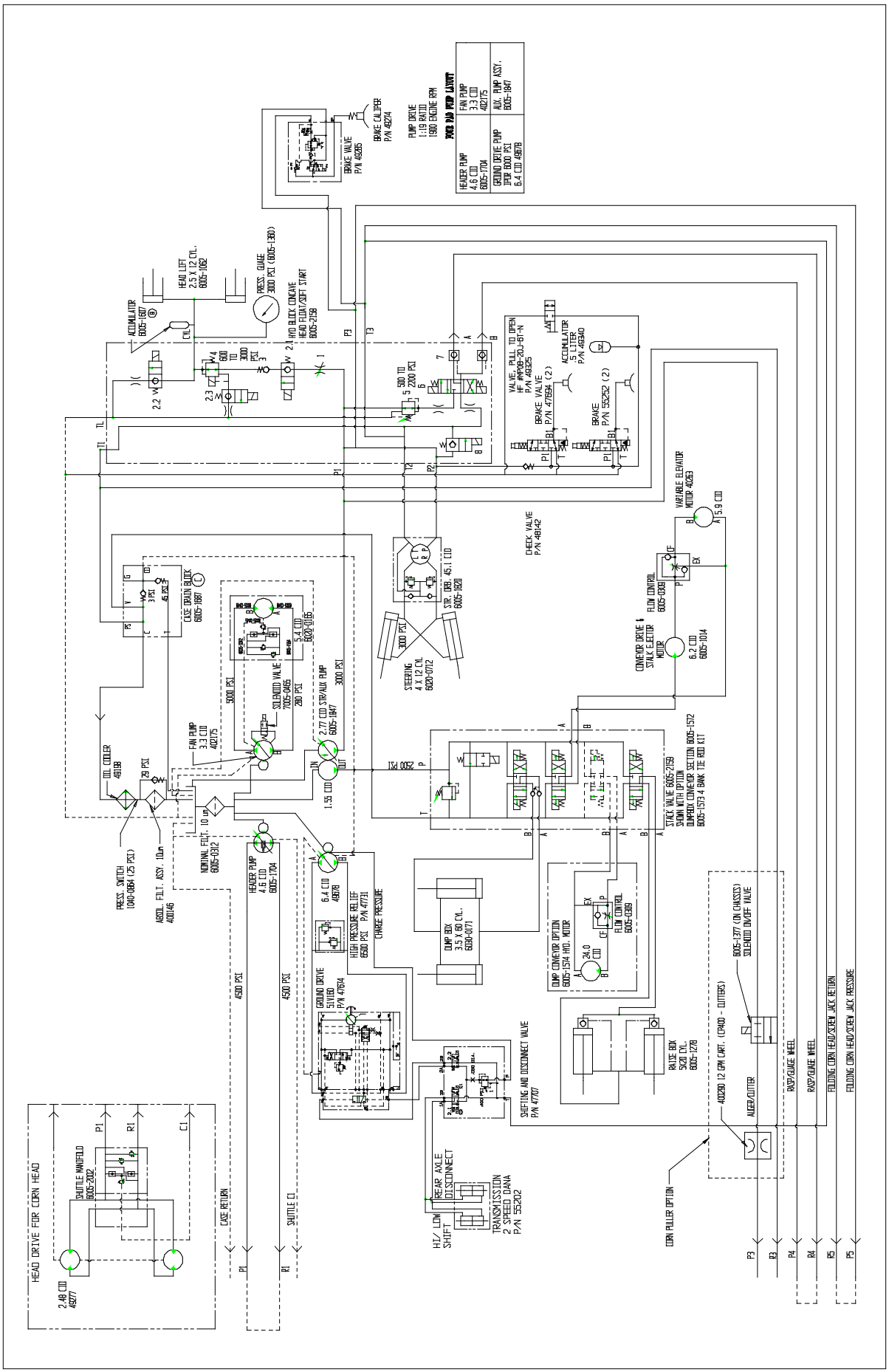
7. To adjust control start pressure, loosen jam nut using a 10 mm wrench. Using a 3 mm hex key wrench, turn adjusting screw (C) clockwise to increase pressure or counterclockwise to decrease pressure.

   NOTE: One full turn will change pressure 660 psi (45 bar).

8. Repeat steps 4 through 6 until a pressure reading of 4700 to 4800 psi (320 to 327 bar) is maintained.

9. When correct pressure has been set, tighten jam nut.

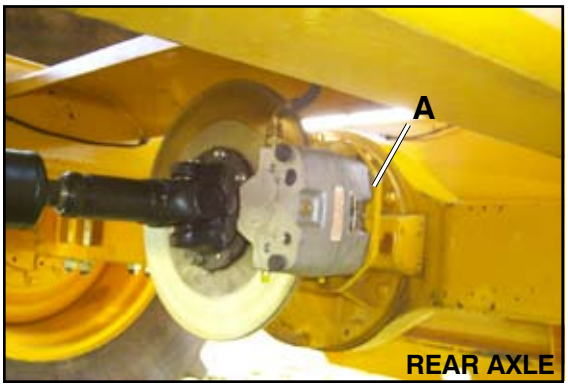
Hydraulics Schematic

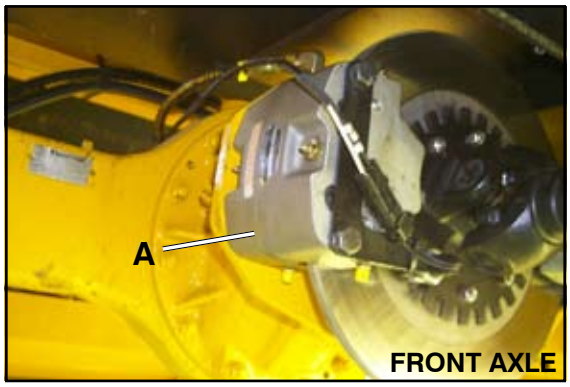


Brake System

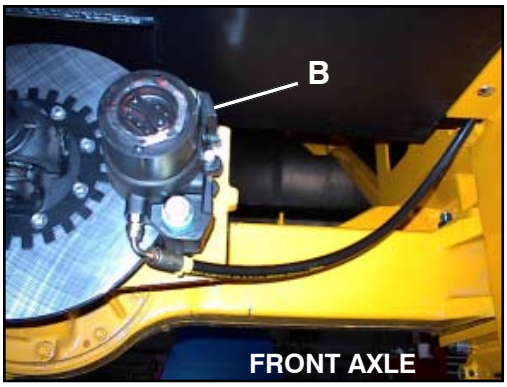
BRAKE SYSTEM DESCRIPTION

The OXBO DB18 harvester is equipped with dual-caliper disk service brakes (A) (one per axle) which are operational whenever the engine is running.





A spring applied, hydraulic release park brake caliper on the front axle (B) act as a parking/fail-safe brake, either intentionally applied from the cab (Parking) or automatically applied in the event of hydraulic or electrical failure.



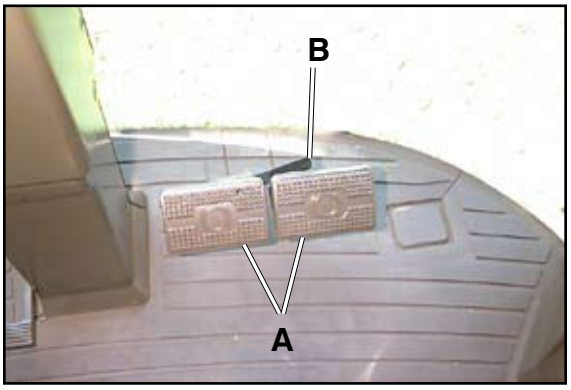
N

SERVICE BRAKES

The service brakes are applied in the cab by two foot pedals (A) linked to two hydraulic brake valves which are connected to the service brake calipers.

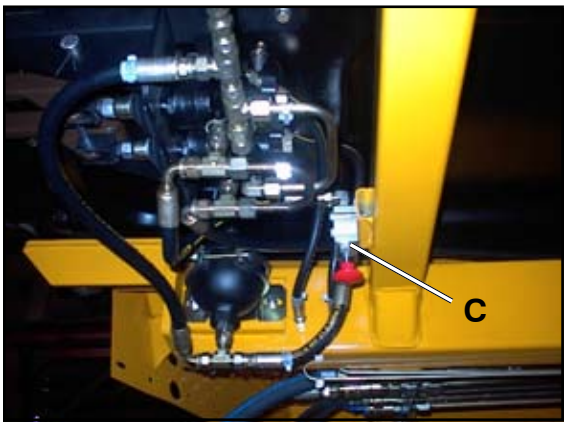
IMPORTANT: ALWAYS KEEP BRAKE PEDALS LOCKED TOGETHER.

Lock pedals together with lever (B).



NOTE: The service brake system is comprised of the hydrostatic transmission, controlled by the joystick, and the hydraulic applied caliper brakes, controlled by the brake pedals.
To bring the DB18 to a complete stop, move the joystick to the neutral position and depress both brake pedals.

The extended use service brake system enables the operator to make a limited number of service brake applications should the hydraulic power source be lost, either due to engine stall, pump/pump drive failure or supply hose failure. This is accomplished by the check valve and a hydraulic accumulator on the supply line of the service brake valves. Pressurized oil is stored in the accumulator and is available on a limited basis to the service brake system during the initial loss of hydraulic supply. A manual pressure release valve (C) is included in this system to vent the stored pressurized hydraulic oil to tank when system maintenance is required. The pressure release valve vents hydraulic oil pressure when the red knob on the valve is pulled.



WARNING: FAILURE TO VENT THE ACCUMULATOR PRIOR TO PERFORMING MAINTENANCE ON THE SERVICE BRAKE SYSTEM MAY RESULT IN SERIOUS INJURY DUE TO THE RELEASE OF PRESSURIZED OIL.

Manual pressure release valve (C) is located behind right, front cover

N

PARKING BRAKE

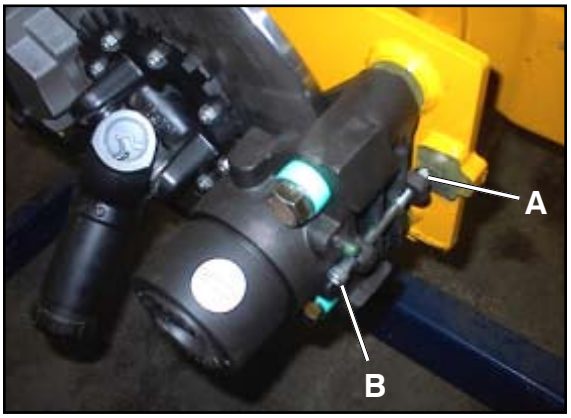
The parking/fail-safe brake is described as spring-applied, hydraulically released. When hydraulic pressure is present at the caliper, a spring is compressed, releasing the brakes. A two-position, three-way, solenoid-operated valve directs oil pressure from the auxiliary hydraulic system to operate the parking/fail-safe brakes under the following conditions:

1. Power unit engine not running
2. Power unit engine running, parking brake switch “ON”
3. Loss of engine oil pressure
4. Loss of auxiliary hydraulic system pressure
5. Loss of electrical power to parking brake valve

CAUTION: SWITCH THE PARKING BRAKE ON BEFORE LEAVING THE CAB FOR ANY REASON. THE PARKING BRAKE IS DESIGNED TO HOLD THE MACHINE AT REST, WITH THE ENGINE OFF. PARKING BRAKE WILL NOT RESTRAIN THE MACHINE WITH ENGINE RUNNING AND TRANSMISSION ENGAGED.

PARKING BRAKE ADJUSTMENT

1. Chock the wheels.
2. Start the engine.
3. Disengage parking brake.
4. Loosen two jam nuts (A).
5. Turn adjusting screw (B) unit snug.
6. Turn adjusting screw (B) back 1/2 turn.
7. Tighten two jam nuts (A).
8. Reapply parking brake.



N

Tires & Wheels

TIRE AND WHEEL MAINTENANCE

Check tires daily for damage or noticeably low air pressure. Check tire pressures with a gauge weekly.

TIRE PRESSURE

Tire	*Pressure*
Standard	25 psi (172 kPa)
Radial	30 psi (207 kPa)
Flotation	23 psi (159 kPa)

LUG NUT TORQUE

350 ft-lbs. (475 Nm)

(THIS PAGE LEFT INTENTIONALLY BLANK)

Air Conditioning & Filtration

OBSERVE AIR CONDITIONING PRECAUTIONS

CAUTION: REFRIGERANT (R134A) UNDER PRESSURE. IMPROPER SERVICING MAY CAUSE REFRIGERANT TO PENETRATE EYES AND SKIN OR CAUSE BURNS.

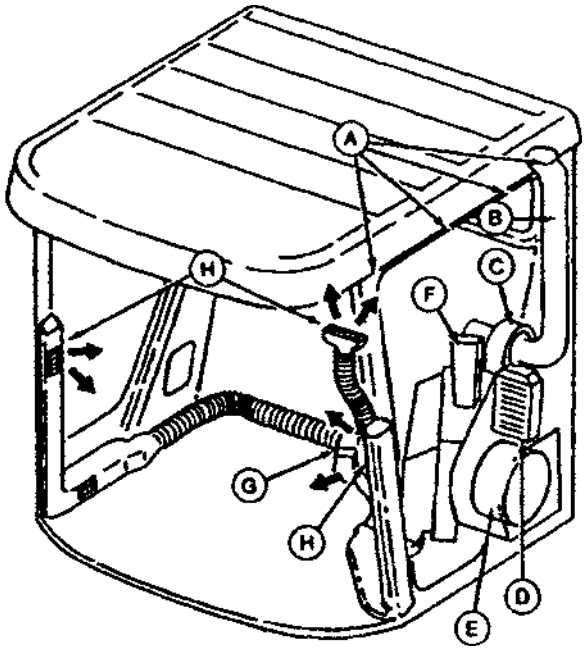
Special equipment and procedures are required to service air conditioning system. See your *OXBO International* dealer.

AIR CONDITIONING SYSTEM (GENERAL INFORMATION)

Air is drawn into the cab through holes (A). This air flows down air duct (B) and into the pressurizer fan (C). The air is then pushed through the precleaner (D) where the majority of dirt and a small amount of air is discharged out through the cab floor. Be certain this opening is open.

This cleaned air then passes through fresh air filter (E) into the evaporator compartment. The air is now mixed with air from inside the cab, being drawn into the evaporator compartment through the recirculating filter (F). It then passes through the evaporator and heater core.

Treated air (heated and cooled) is now drawn into the recirculator blower (G) and discharged into the cab through ducts (H).



P

REMOVING FRESH AIR FILTER AND TRAY

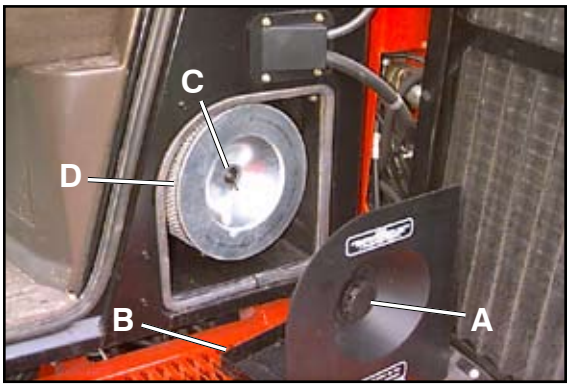
Loosen knob (A), remove cover, lift out and dump dirt tray (B) attached to cover.

Remove wing nut (C) and pull out and clean filter (D).

Secure cover with knob.

IMPORTANT: Do not overtighten knob (A).

In dusty conditions, check every day. Normal service is 50 hours.

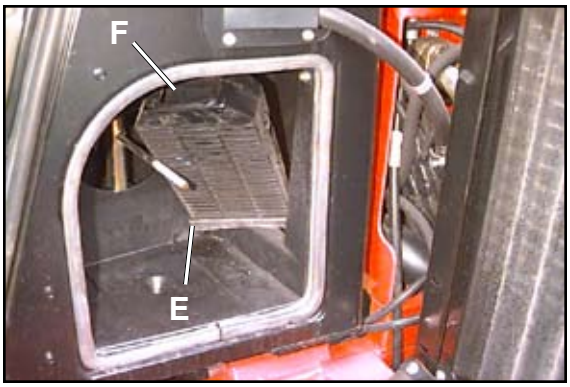


CLEANING PRECLEANER

Whenever the fresh air filter is serviced, clean the precleaner as follows:

Remove fresh air filter and tray. Push down on precleaner (E) and pull it out from the top (F). Hole in floor under precleaner must be kept open.

Wash and dry precleaner and reinstall. Be certain to service fresh air filter and tray.



REMOVING RECIRCULATING FILTER

Lift out tray. Reach in opening and pull out filter.

In dusty conditions, check this filter often and service as required. Normal recommended service is 200 hours.

When replacing filter, it should drop easily into place. Do not force it. Be certain filter is installed as shown on the filter.

P

CLEANING FRESH AIR AND RECIRCULATING FILTERS

Clean filter by one of the following methods:

Tap gently on flat surface, dirty side down. Do not tap on a tire.

Blow compressed air through filter in opposite direction of arrows on filter.

Soak 15 minutes in warm (not hot) water with any non-sudsing detergent.

Rinse until clean with water from hose. Do not use a high pressure washer.

Shake extra water from filter and allow element to dry. Do not use compressed air to dry filter. It may rupture it.

REMOVING EVAPORATOR FILTER

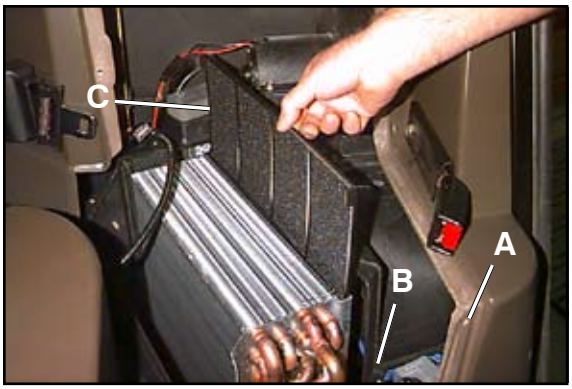
Clean this filter only if other service does not provide enough cooling. The evaporator filter can be inspected from outside the cab after removing the fresh air filter. If it looks clean, do not remove and clean it.

Remove five screws (A) in seat console.

Remove six screws (B) and evaporator cover.

Remove evaporator filter (C).

Clean as you would the other filters.



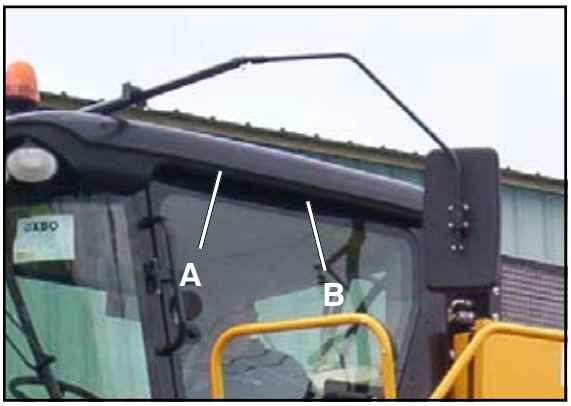
P

CLEANING CAB ROOF INLET PANEL

Clean this panel only when it looks plugged.

Remove six screws (A) and remove panel (B). Air is brought in through the left-hand side panel only. The right-hand side panel does not provide cab air.

Clean with compressed air or water.



P

Troubleshooting

HYDROSTATIC GROUND DRIVE

Symptom	*Problem*	*Solution*
Low traction output.	Speed range too high.	Operate in field, low range while harvesting.
	Brakes dragging.	Adjust brakes as described in this manual.
Unit acts sluggish.	Transmission not fully engaged in Field or Road gears. (Indicator light will flash and audible alarm will pulsate).	Gently steer back and forth or slowly move forward until gears fully engage.
	Parking brake on. (Indicator light will flash and audible alarm will pulsate when machine is moving with parking brake on).	Return joystick to neutral and switch off parking brake.
Transmission temperature too high.	Speed range too high.	Operate in field, low range while harvesting. On the highway it may be necessary to pull over periodically and run the engine at idle until temperature returns to normal.
	Oil cooler intake screen blocked.	Clean intake screen.
	Oil cooler core plugged.	Clean oil cooler core.
	Bearing failure.	Replace bearing.

STEERING		
Symptom	***Problem***	***Solution***
Unit hard to steer.	Low air pressure in rear tires.	Inflate tires to pressure recommended in this manual.

BRAKES		
Symptom	***Problem***	***Solution***
Brakes won't hold.	Worn linings.	Replace caliper pads.

HYDRAULIC SYSTEM		
Symptom	***Problem***	***Solution***
Hydraulic oil temperature too high.	Dirty oil tank screen or core.	Clean as required.

ENGINE

Symptom	*Problem*	*Solution*
Engine overheats.	Radiator air intake screen blocked.	Clean.
	Radiator core blocked.	Clean.
	Coolant level too low.	Add coolant.
	Speed range too high	Operate in field, low range while harvesting.
	Loose fan belt.	Replace fan belt and/or belt tensioner.
Low engine power.	Dirty air filter.	Check air filter restriction indicator. Clean or replace filters as required.
	Dirty fuel filter.	Replace fuel filters.
Engine won't start (starter won't crank engine).	Operator's controls not in proper positions to start engine.	Refer to *Operating the Engine* section of this manual.
Engine won't start (starter cranks slowly).	Low battery voltage.	Check battery condition.
	Auxiliary or load-sense pump not destroking properly.	Refer to pump technical manual.
Engine won't start (starter cranks normally).	Engine diagnostics panel requires attention.	Refer to the *John Deere Engine Manual.*

For engine problems not outlined above, refer to the *John Deere Engine Operation and Maintenance Manual.*

HEATER

Symptom	*Problem*	*Solution*
Heater not heating.	Dirty recirculating filter.	Clean filter.
	No thermostat in water outlet manifold.	Install thermostat.
	Defective thermostat in water outlet manifold.	Replace thermostat.
	Heater temperature control defective.	Replace control.
	Kinked heater hose.	Straighten or replace.
	Defective heater valve.	Replace valve.
	Shut-off valve on engine closed.	Open manual valve.

CAB ELECTRICAL

Symptom	*Problem*	*Solution*
Harvest functions stop when leaving cab.	Seat safety switch overrides harvest functions switch.	Shut off harvest functions switch before leaving cab.
Parking brake light flashes and audible alarm pulsates when attempting to drive harvester.	Parking brake switch is on.	Return joystick to neutral and switch off parking brake.
Low voltage alarm and light on.	Poor electrical connections on battery, ground straps, starter or alternator.	Inspect connections and clean and tighten as necessary.
	Alternator belt loose.	Replace fan belt and/or belt tensioner.
	Defective alternator.	Repair or replace alternator.

AIR CONDITIONING

Symptom	*Problem*	*Solution*
Lack of or insufficient cooling.	Temperature slide lever in OFF position.	Select AIR CONDITIONING position.
	Compressor belt off or broken.	Replace belt.
	Compressor not functioning (if both the large and small hoses in the left-hand access panel are at the same temperature).	See your OXBO International dealer.
	High pressure switch on - insufficient air flow across condenser.	Clean condenser. Check fan belt condition.
	Low pressure switch on - insufficient air flow across evaporator.	Clean filters. Check cab fan operation. See your OXBO International dealer.
	Low pressure switch on - low outside air temperature.	Move slide lever to warmer setting.
	Low pressure switch on - insufficient refrigerant level (bubbles in sight glass).	See your OXBO International dealer.
	Heater valve partially on - (with temperature lever in max. air conditioning, feel both heater hoses on right-hand side of cab. If both are warm, valve is open).	Adjust control rod through tray opening. Move lever to OFF. Loosen set screw in ball joint and when applying slight pressure down on rod, tighten ball joint.

AIR CONDITIONING cont'd.		
Symptom	***Problem***	***Solution***
Compressor clutch cycles excessively or compressor stays off up to 15 minutes.	Evaporator icing.	Adjust controls correctly. See *Operator's Station*. Open louvers. Clean filters. Move lever to warmer setting.
Bad smell (foul odor) in cab.	Plugged drain tube. Dirty filters. Dirty cab.	Blow out condensate tube. Clean filters. Vacuum out cab. Be certain weep valve in condensate drain tube is installed.
Air conditioner fails to produce cool air.	Heater control is turned on.	Turn off heater control and/or turn off heater supply valve on engine.
	Condenser coil plugged.	Clean condenser coil.

Storage

PREPARING FOR STORAGE

1. Clean complete machine thoroughly and paint any bare metal to prevent rust.

2. Retract exposed hydraulic cylinders if possible or coat exposed cylinder rods with grease.

3. Perform annual service and lubrication as described in the *Maintenance* section of this manual.

4. Make sure batteries are fully charged, then turn battery disconnect switch “OFF” and lock cover.

5. Check level and strength of coolant for proper cold weather storage. Make sure antifreeze / supplemental coolant additive / water solution will protect to lowest expected temperatures in your area. Refer to the John Deere *PowerTech 8.1 L 6081 OEM Diesel Engines Operation and Maintenance Manual* for additional information.

6. Fill fuel and hydraulic tanks.

WHILE IN STORAGE

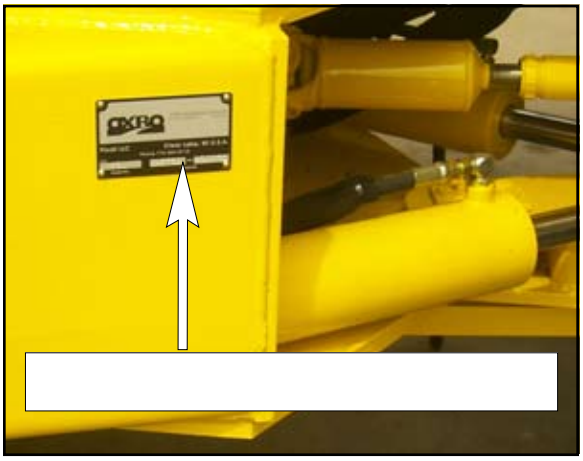
1. If possible, start and run the engine until it has reached operating temperature at least once a month during storage period.

2. Do not allow the batteries to remain partially discharged for long periods of time (4 months or more). Recharge the batteries at a rate of 6 - 10 amperes for 8 - 10 hours at least once every 4 - 6 months while unit is in storage.

Serial Number

When ordering parts, always furnish the model number and serial number of the machine as stamped on the data plate located on the left side of the harvester ahead of the articulation point.

Record your serial number in the space provided in the photo at right.



R

Charts & Specifications

MACHINE SPECIFICATIONS

Engine: John Deere 6081A turbocharged and intercooled diesel, in-line six cylinder, liquid cooled, 496 cu. in. (8.1 L), 250 hp (205 kW) @ 2200 rpm, aspirated precleaner, dual-element air cleaner.

Ground Drive: Combination hydrostatic and mechanical drive, full-time four-wheel drive with four speed ranges:

1st gear + Low Range .....0 - 3.0 mph (4.5 km/h)
2nd gear + Low Range.....0 - 4.5 mph (7.2 km/h)
1st gear + High Range .....0 - 7.0 mph (11.2 km/h)
2nd gear + High Range.....0 - 18.0 mph (28.8 km/h)

Brakes: Dual master cylinder with hydraulic disc brakes to both front and rear axles.

Steering: 40° articulated with power steering.

Hydraulic Components: Five hydraulic pumps driven by a four-pad gear unit coupled directly to the engine. Total of six hydraulic motors control cleaning fans, header, intake / output conveyors, and ground drive.

Tires: 24.5 x 32 12-ply, front and rear

Electrical System: Two 12-volt, group 31 batteries. 130-amp alternator, 2 front work lights, 4 front road lights, 2 rear work lights, 2 side work lights, 2 rear amber flashing lights, 2 header-mounted amber flashing lights, 2 rear red taillights, 2 back-up lights, 1 front beacon, and 1 rear beacon.

Cab: Rubber mounted, tinted windshield, windshield wiper and washer, fully adjustable air-ride seat with buddy seat, adjustable steering column with extend / retract capabilities, dual side-mounted mirrors, heater and air conditioner, AM-FM stereo radio, and automatic header shutdown in operator's seat.

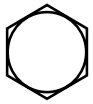
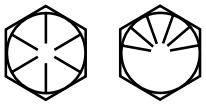
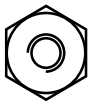
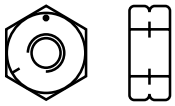
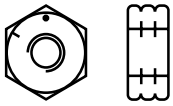
Controls: One hand, multifunction control lever actuates ground drive speed and forward-reverse as well as header operation.

Hopper: Capacity - volume - 518 cu. ft. (14.7 m^3)
Capacity - weight - 12950 lbs. (5874 kg)

Dimensions:

Width:	Without header - 10 ft. 3 in. (123 in.) (312 cm)
Length:	Without header - 28 ft. 0 in. (336 in.) (854 cm)
Height:	13 ft. 8 in. (164 in.) (417 cm)
Wheelbase:	13 ft. 4 in. (160 in.) (406 cm)
Track:	8 ft. 1 in. (97 in.) (246 cm)
Turning radius:	13 ft. 4 in. (160 in.) (406 cm)
Weight:	Without header - 25,000 lbs. (11340 kg)

UNIFIED INCH BOLT AND CAP SCREW TORQUE VALUES

SAE Grade and Head Markings	NO MARK	1 or 2[b] 	5 5.1 5.2 	8 8.2 
SAE Grade and Nut Markings	NO MARK	2 	5 	8 

Size	Grade 1				Grade 2[b]				Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]	
	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft
1/4	3.7	2.8	4.7	3.5	6	4.5	7.5	5.5	9.5	7	12	9	13.5	10	17	12.5
5/16	7.7	5.5	10	7	12	9	15	11	20	15	25	18	28	21	35	26
3/8	14	10	17	13	22	16	27	20	35	26	44	33	50	36	63	46
7/16	22	16	28	20	35	26	44	32	55	41	70	52	80	58	100	75
1/2	33	25	42	31	53	39	67	50	85	63	110	80	120	90	150	115
9/16	48	36	60	45	75	56	95	70	125	90	155	115	175	130	225	160
5/8	67	50	85	62	105	78	135	100	170	125	215	160	215	160	300	225
3/4	120	87	150	110	190	140	240	175	300	225	375	280	425	310	550	400
7/8	190	140	240	175	190	140	240	175	490	360	625	450	700	500	875	650
1	290	210	360	270	290	210	360	270	725	540	925	675	1050	750	1300	975
1-1/8	470	300	510	375	470	300	510	375	900	675	1150	850	1450	1075	1850	1350
1-1/4	570	425	725	530	570	425	725	530	1300	950	1650	1200	2050	1500	2600	1950
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2150	1550	2700	2000	3400	2550
1-1/2	1000	725	1250	925	990	725	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

DO NOT use these torque values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

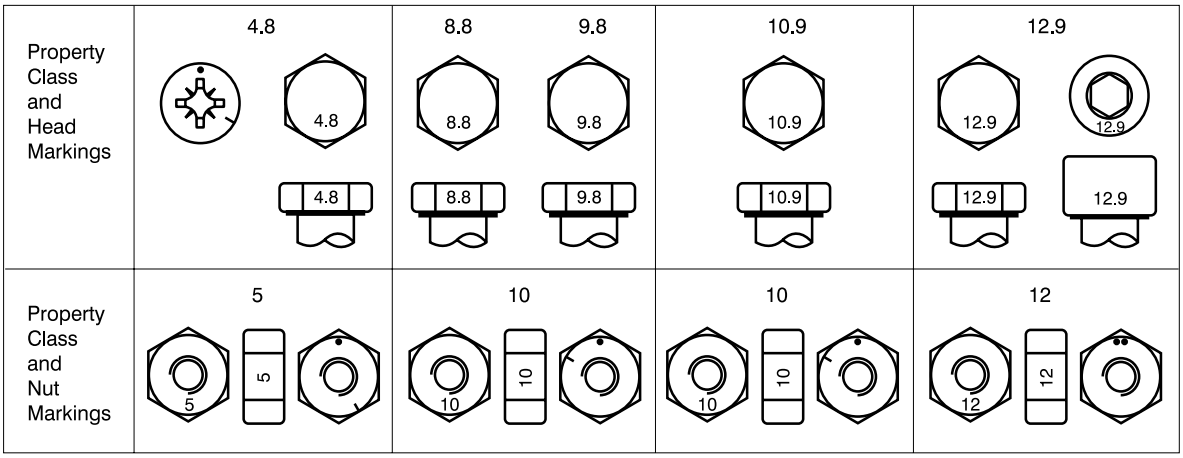
Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

b Grade 2 applies for hex cap screws (not hex bolts) up to 152 mm (6 in.) long. Grade 1 applies for hex cap screws over 152 mm (6 in.) long, and for all other types of bolts and screws of any length.

METRIC BOLT AND CAP SCREW TORQUE VALUES



Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]	
	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	225	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1300	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

DO NOT use these torque values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

S

Fitting Assembly Torque and F.F.W.R. (For O-ring Face Seal Fittings)

SAE Dash Size	Tube Side Thread Size	Tube Side Assembly Torque (+10% -0%)			Flats from Wrench Resistance (F.F.W.R.)	
		in-lb.	ft-lb.	Nm	Tube Nuts	Swivel & Hose Ends
-4	9/16-18	220	18	25	1/4 to 1/2	1/2 to 3/4
-6	11/16-16	360	30	40	1/4 to 1/2	1/2 to 3/4
-8	13/16-16	480	40	55	1/4 to 1/2	1/2 to 3/4
-10	1-14	---	60	80	1/4 to 1/2	1/2 to 3/4
-12	1 13/16-12	---	85	115	1/4 to 1/2	1/3 to 1/2
-14	15/16-12	---	95	130	1/4 to 1/2	1/3 to 1/2
-16	1 7/16-12	---	110	150	1/4 to 1/2	1/3 to 1/2
-20	1 11/16-12	---	140	190	1/4 to 1/2	1/3 to 1/2
-24	2-12	---	180	245	1/4 to 1/2	1/3 to 1/2
-32	2 1/2-12	---	360	490	---	---

F.F.W.R. Assembly Method:

If torque wrenches are not available, an alternate method of assembly is the Flats From Wrench Resistance (F.F.W.R.) Method.

Wrench tighten the nut onto the fitting body until wrench resistance is reached. Tighten further to the appropriate F.F.W.R. value from the *Fitting Assembly Torque and F.F.W.R.* chart shown above.

NOTE: The torque method of assembly is the preferred method of assembly. It reduces the risk of human error during assembly that is more prevalent in the Flats From Wrench Resistance (F.F.R.W.) method. To ensure the most accurate assembly of the fitting, it is strongly recommended that the torque method be utilized.

Hydraulic Hose Pressure Ratings

Hose Spec	Pressure Rating (PSI) by Size											
	-2	**-3**	**-4**	**-5**	**-6**	**-6.5**	**-8**	**-10**	**-12**	**-14**	**-16**	**-18**
100R1AT	n/a	3000	2750	2500	2250	2250	2000	1500	1250	1125	1000	n/a
100R2AT	n/a	5000	5000	4250	4000	n/a	3500	2750	2250	2000	2000	n/a
100R3	n/a	1500	1250	1200	1125	n/a	1000	875	750	n/a	565	n/a
100R4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	300	n/a	250	n/a
100R5	n/a	3000	3000	2250	n/a	2000	1750	1500	n/a	800	n/a	625
100R6	n/a	500	400	400	400	n/a	400	350	300	n/a	n/a	n/a
100R7	n/a	3000	2750	2500	2250	n/a	2000	1500	1250	n/a	1000	n/a
100R8	n/a	5000	5000	n/a	4000	n/a	3500	2750	2250	n/a	2000	n/a
100R9AT	n/a	n/a	n/a	n/a	4500	n/a	4000	n/a	3000	n/a	3000	n/a
100R10	n/a	10000	8750	n/a	7500	n/a	6250	n/a	5000	n/a	4000	n/a
100R11	n/a	12500	11250	n/a	10000	n/a	7500	n/a	6250	n/a	5000	n/a
100R12	n/a	n/a	n/a	n/a	4000	n/a	4000	4000	4000	n/a	4000	n/a
100R13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5000	n/a	5000	n/a
100R14	1500	1500	1500	1500	1500	1000	800	800	800	800	800	600
100R15	n/a	n/a	n/a	n/a	6000	n/a	6000	n/a	6000	n/a	6000	n/a
100R16	n/a	n/a	5000	4250	4000	n/a	3500	2750	2250	n/a	2000	n/a
100R17	n/a	n/a	3000	3000	3000	n/a	3000	3000	3000	n/a	3000	n/a

Hose Spec	Pressure Rating (PSI) by Size cont'd											
	-20	-22	-24	-29	-32	-38	-40	-48	-64			
100R1AT	625	n/a	500	n/a	375	n/a	n/a	n/a	n/a			
100R2AT	1625	n/a	1250	n/a	1125	n/a	1000	n/a	n/a			
100R3	375	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
100R4	200	n/a	150	n/a	100	n/a	62	56	35			
100R5	n/a	500	n/a	350	n/a	350	n/a	200	n/a			
100R6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
100R7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
100R8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
100R9AT	2500	n/a	2000	n/a	2000	n/a	n/a	n/a	n/a			
100R10	2500	n/a	2000	n/a	2000	n/a	n/a	n/a	n/a			
100R11	3500	n/a	3000	n/a	3000	n/a	2500	n/a	n/a			
100R12	3000	n/a	2500	n/a	2500	n/a	n/a	n/a	n/a			
100R13	5000	n/a	5000	n/a	5000	n/a	n/a	n/a	n/a			
100R14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
100R15	6000	n/a	6000	n/a	n/a	n/a	n/a	n/a	n/a			
100R16	1625	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
100R17	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			

COMMON CONVERSION FACTORS

Length:	Inches to millimeters: x 25.4 Miles to kilometers: x 1.609
Weight:	Pounds to kilograms: x .4536
Area:	Acres to hectare or square hectometer: x .4047
Pressure:	Psi to bar: x .06895 Psi to kPa: x 6.8948
Torque:	Foot-pounds to Newton meters: x 1.3558
Flow:	Gallons/minute to liters/minute: x 3.7848
Displacement:	Cubic inches to cubic centimeters: x 16.387
Power:	Horsepower to kilowatts: x .74571
Liquid:	Gallons to liters: x 3.785