



OPERATIONAL & TECHNICAL **GUIDE**

2017

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S7 Cab Interior



INSTRUMENT PANEL

CONSOLE & JOYSTICK



Disclaimer: Optional equipment shown. Specific features may vary depending on options purchased.

S7 Cab & Controls

Suspension Seat & Adjustment Locations

The suspension seat has multiple adjustments to set the seat to a comfortable operating position. Fore-aft, backrest tilt, height and suspension weight. DO NOT adjust seat while in motion.

Joy Stick Control

The Joy stick controls the shaker head extension and retraction and up and down. The joy stick grip contains the push buttons to operate the clamping, shake and roll function. (diagram following page)

Propulsion Pedal Location

The propulsion pedal controls the direction of travel for the shaker. Depressing the pedal to the left activates forward to the right reverse. Releasing the pedal will bring the shaker to a stop.

Throttle pedal & Secondary adjustable fixed throttle

The throttle pedal & secondary throttle controls the engine RPM. Use the secondary throttle to set a fixed engine rpm for operation and use the foot throttle to increase rpms when needed.

Steering column

The steering column is tilt adjustable. To Tilt wheel push on the lower portion of the rubber boot as indicated. Move wheel to desired position and release.

Cooled storage

The cooled storage operates when the AC is on. DO NOT store perishable items in the storage box.

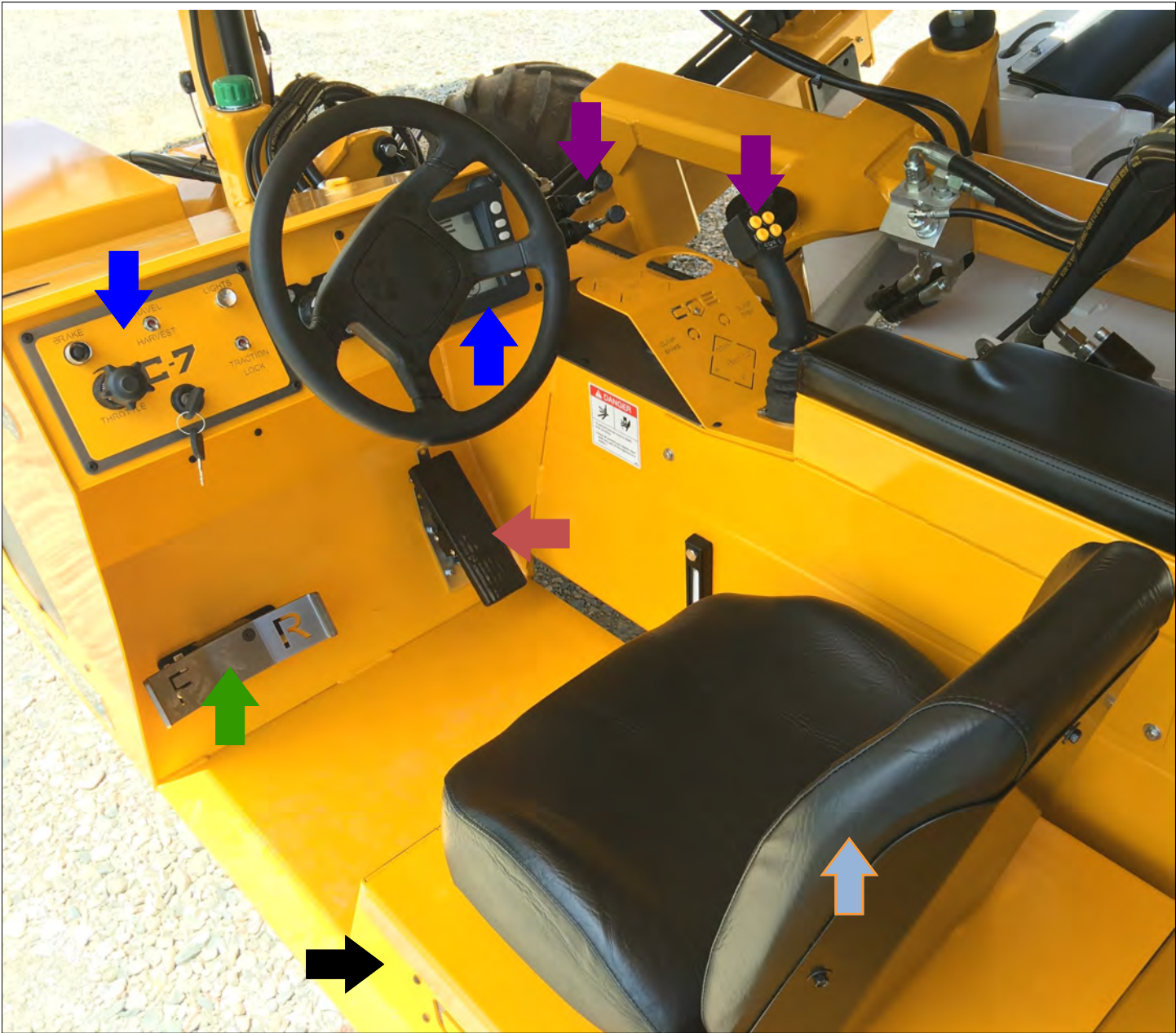
Instruments and control panel

The instrument panel contains all vital information for the shaker. The GEM monitor is a multi function interface that displays vital engine information as well as any engine fault codes. The GEM can be programmed to display only the information that the operators prefers. Refer to the booklet in this manual on the GEM monitor. The instrument panel also has pressure gauges for the hydraulic functions of CLAMP, MAIN and CHARGE. The AM/FM CD stereo is located in the same area as the AC temp and blower controls. Rocker switches in the control panel are for SWEEPERS, CAB PRESSURIZER, LIGHTS and HIGH-LOW GEARS. The ignition switch is also located in the console panel. Low oil light on dash indicates flow level of hydraulic reservoir.

NOTE:

On models with the *COE Excelerate system* the hydraulic pressure gauge functions are integrated in the color monitor. Please refer to the *Excelerate* manual for additional features and use.

C7R Operator's Platform



C7R Operator's Platform

Seat

The standard seat is adjustable for fore & aft movement.

Joy Stick & Secondary Controls

The Joy stick controls the shaker head extension and retraction and up and down. The joy stick grip contains the push buttons to operate the clamping, shake. The 2 upper buttons are pre-wired as spares in the event the main buttons fail. The secondary controls are used to control the height of the deflector and the top deck width. Optional AXIOM lift if equipped.

Propulsion Pedal

The propulsion pedal controls the direction of travel for the shaker. Rocking the pedal to the left activates forward to the right reverse. Releasing the pedal will bring the machine to a stop.

Hydraulic Accelerator Pedal

The hydraulic accelerator pedal controls hydraulic flow of the ground drive and shaker head. To increase speed of these functions depress the pedal. To decrease the speed of functions release the pedal.

Storage Compartment

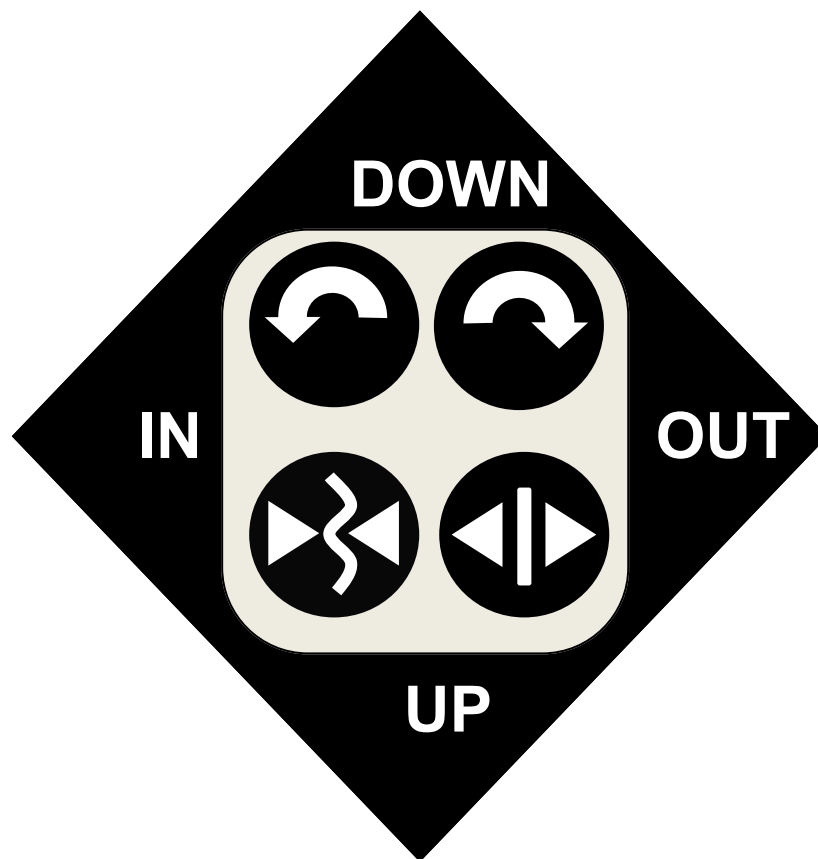
The storage compartment is located under the operators seat. Use this area to store various items. It is recommended to clean storage compartment out prior to winter storage.

Instruments and control panel

The instrument panel contains all vital information for the shaker. The monitor on the right side of the dash is a multi function interface that displays vital engine information as well as any engine fault codes. The monitor also displays clamp pressure and is the adjustment for the clamp pressure.

The left side of the dash includes the harvest & travel selector, light switch, parking brake button, fixed adjustable throttle, ignition switch & traction valve switch (optional item).

S7 Joystick Functions



ROLL LEFT

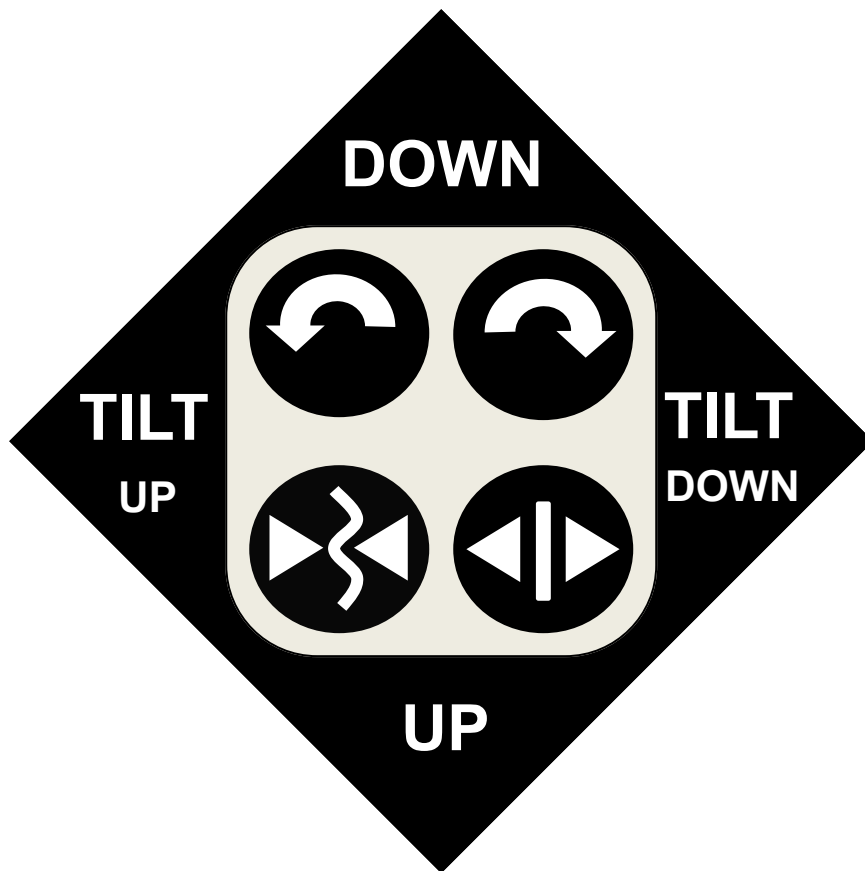
ROLL RIGHT

CLAMP / SHAKE

UN-CLAMP



M7 Joystick Functions



ROLL LEFT

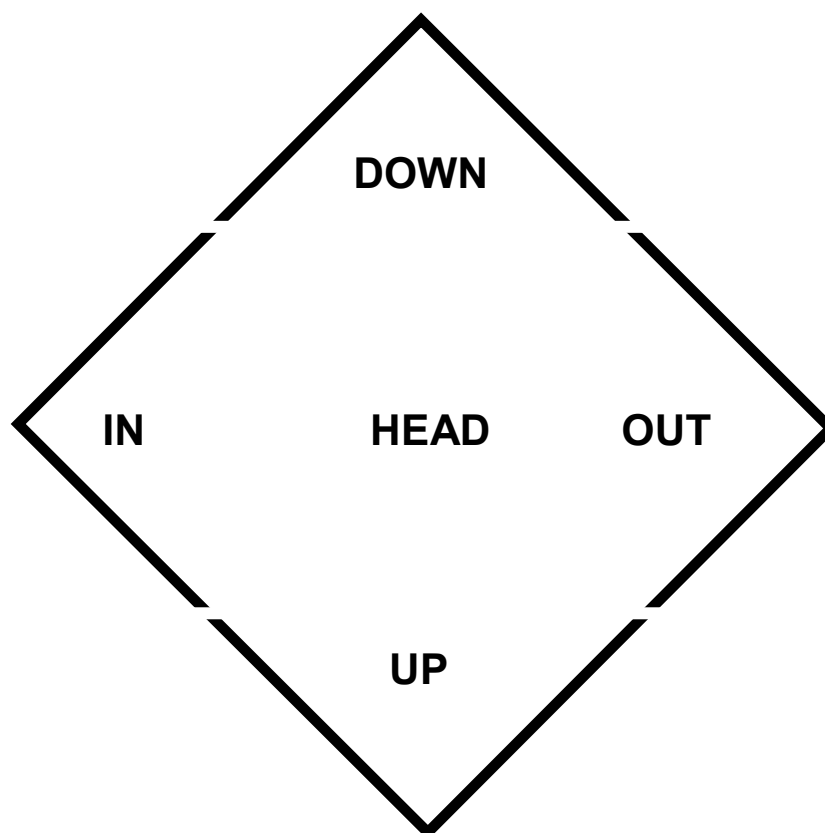
ROLL RIGHT

CLAMP / SHAKE

UN-CLAMP



C7R Joystick functions



EXTRA

EXTRA

CLAMP / SHAKE

UN-CLAMP



Operating Shaker

If you have never operated a shaker before or a new COE S7 model shaker follow these easy steps to help familiarize yourself with the machine, its operation and characteristics. It is important to make sure you know and have experience with the controls and operation of them. If you have not reviewed the "Operators Control Area" on the previous page, take the time to do that now. With the machine off, sit in the seat in a comfortable position. Look over the various controls and their labeling. Also take time to view all safety warning decals and their placements. Now that you have done the above it's time to try the controls with the machine running.

BEFORE STARTING make sure all controls are in neutral or off. To start the machine simply turn the key as you would in a car. After starting raise the Shaker head from its resting position on the ground. Now you can begin to activate each function individually. Make sure to do this at an Idle with the machine clear of people and objects. When operating the functions notice the speed and changes of what is going on. Take special notice of the moving parts. **NEVER** allow people or objects in these crush hazard areas serious injury or death could occur. Continue to repeat these functions until you become familiar with the use and feel of them.

Now you are ready to try on real trees. Set engine RPMs to 1,700 to 1,800. ALL functions of shaker were designed to operate optimal at this RPM setting. When entering the row make sure the SHAKER HEAD is fully retracted and the HEAD is low to clear all branches and limbs when entering tree row. Try to enter the tree row as square with the row you are going to shake as possible keeping about 12" to 18" between the HEAD and tree trunk. Pull up to the tree you are going to shake and placing the clamp jaws as close to the center of the trunk as possible. Now extend the shaker head out (always make sure the clamp is fully opened toward the tree until the trunk is in the center of the shaker pads. It is very important

When you have finished shaking simply release the button to stop the shaking action. **ONLY** when shaking has fully stopped may you unclamp from the tree trunk. "ALWAYS WAIT FOR SHAKING TO FULLY STOP OR DAMAGE TO TREE AND SHAKER HEAD WILL OCCUR." When unclamping open the shaker head clamp fully, this is necessary to re-set the shake sequence.

Now retract the shaker head. After fully retracting depress the propulsion pedal to the forward position to move to the next tree. Continue to repeat each sequence of event. Take it slow at first. As you become more used to the shaker your speed and accuracy will increase.

The COE side mount shaker is very rugged but not indestructible. It is important to follow these guidelines to prevent unnecessary damage and costly repairs.

LINE UP TREE TRUNK TO STATIONARY SIDE OF SHAKER HEAD (NOT CLAMP ARM)

NEVER UNCLAMP UNTIL SHAKE HAS FULLY STOPPED. CLAMP CYLINDER FAILURES WILL OCCUR IF OPENED WHILE STILL SHAKING.

FULLY UNCLAMP BEFORE RETRACTING SHAKER HEAD OR MOVING TO NEXT TREE.

FULLY RETRACT SHAKER HEAD BEFORE MOVING TO NEXT TREE.

KEEP 12" TO 18" BETWEEN SHAKER HEAD AND TREE TRUNK.

DO NOT RUN INTO OBJECTS WITH SHAKER

S7 & M7 Dash Display

The following is a brief manual explaining the features and navigation of the COE M7 and S7 display. The display located on the right of the main dash allows for access to engine information, fuel level, hydraulic pressures, service intervals as well as contact information. The display utilizes soft keys with menus listed above each of the four keys.



Shown to the left is the main starting screen. This will display active clamp, charge and system pressures. In the lower right the fuel is shown as a percentage of the tank remaining. The buttons in this window will show engine information, contact information, service notification, and engine fault codes.

By pressing the engine button we go from the home screen to the first of two engine screens. The first screen displays engine RPM, battery voltage, engine temp and oil pressure. By pushing the pressure button it will return back to the main pressure page. The next button takes us to page two of the engine information.





By selecting “next” on the first engine screen we go to the second page of engine information. Here we see engine hours, intake temperatures, total fuel used, and fuel rate. Again the first button takes us to the main pressure page, the second to the previous page of engine information.



The support button will direct you to the COE information page. Here you will also find our dealer page which gives contact information for all of our North America dealers.

By pressing the wrench logo it takes us to the service page. Here, a customer can use the hours of the shaker to help remind them of service intervals. Shown here the first service scheduled is at 100hrs (new engines require an oil change at the first hundred hours of use) at the end of 100hrs the wrench logo will flash yellow to indicate service is needed. The increase or decrease buttons change the hour amount by 50hr increments. Typically this feature is used for helping with engine oil changes but can also be a useful tool when renting shakers and keeping track of hours used.



Should a fault in the engine occur in any of the screens this is the primary screen that will take over. This screen will remain until the operator pushes the acknowledge button indicating the operator is aware of the issue. Once acknowledged the screen will return to the original screen. With the exception of the service interval screen there is a picture of an engine. This icon will flash showing the fault still exist. Pressing the flashing engine will take you to a screen that will further explain the fault code.



This page will show all current and stored codes. Here we see there is a accelerator pedal issue. If there are more than one concurrent codes the arrow button will allow you to highlight that code. Once selected press details and it will further explain the issue. The exit button will return you to the main pressure page.

The picture shown is the details of the highlighted code from above. In this case we see it is a active code, and what accelerator is in question. The FMI will match that of the engine manual helping further diagnose the issue. In the lower right of the screen you will see OC: 0. This is the occurrence count telling you the number of times the issue has been present. Exiting this page will return you to the main fault page. Information from this page is especially helpful when contacting a dealer about an engine related issue.



C7R Dash Display



ADJUSTMENT KNOB FOR
CLAMP PRESSURE &
SYSTEM PARAMETERS

FROM MAIN SCREEN PRESS
CHANGE SCREEN BUTTON TO
GET TO CLAMP SCREEN

PRESS & HOLD BRIEFLY TO
ENABLE CLAMP ADJUSTMENT

PRESS & HOLD CLAMP
BUTTON ON JOYSTICK



CONTINUE TO HOLD CLAMP
JOYSTICK BUTTON AND
RAISE OR LOWER CLAMP
PRESSURE SETTING BY
TURNING ADJUSTMENT
KNOB

WHEN YOU REACH YOUR
PRESSURE SETTING SIMPLY

PRESS CHANGE SCREEN
BUTTON TO RETURN TO
HOME SCREEN

C7R Dash Display



PRESS CHANGE DISPLAY TO NAVIGATE TO OTHER SCREENS

HOME SCREEN WILL DISPLAY

- TACHOMETER
- OIL PRESSURE
- COOLANT TEMP
- CLAMP PRESSURE
- ENGINE HOURS



PARKING BRAKE ENGAGED WILL FLASH WHEN BRAKE IS SET

BUTTONS ARE ACTIVE WHEN AN ICON IS ON SCREEN

Engine & Hydraulic Specifications

ENGINE POWER 139HP or 185HP

ENGINE RPM RANGE 800-2400 RPM MAX

ENGINE COOLANT TEMPERATURE RANGE 0-210 DEGREES MAX

ENGINE OIL PRESSURE RANGE 40-80 PSI

HYDRAULIC FLUID TEMPERATURE RANGE 0-180 DEGREES MAX

HYDRAULIC PRESSURE SHAKE/MAIN 0-3,000 PSI MAX

HYDRAULIC PRESSURE STEERING 0-2,000 PSI MAX

HYDRAULIC PRESSURE HYDROSTAT 0-4,800 PSI MAX

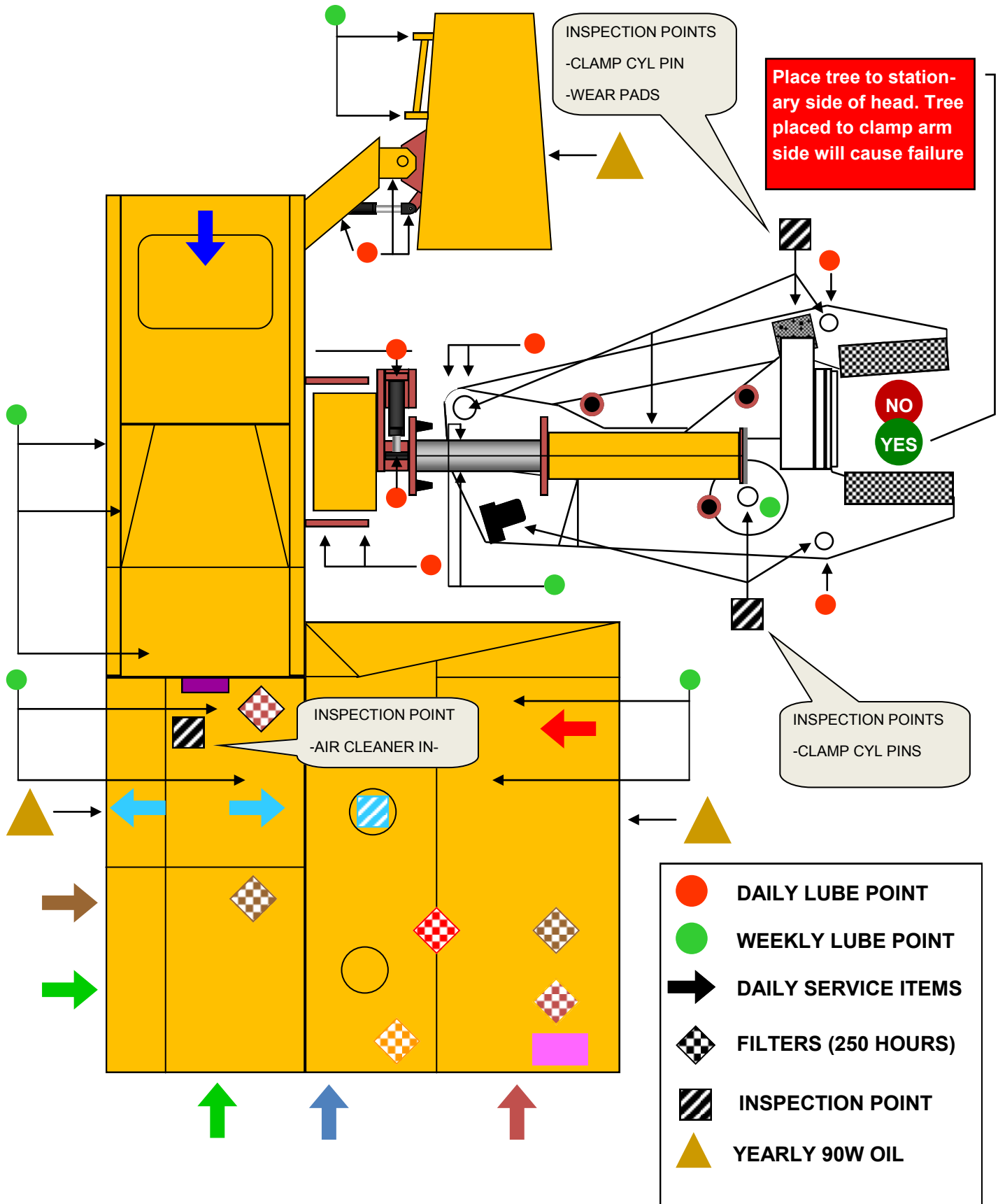
HYDRAULIC PRESSURE CHARGE 350-400PSI MAX

CLAMP PRESSURE (VARIABLE) 1,000PSI—2,000PSI MAX

HYDRAULIC FLUID CAPACITY 52 GALLONS

DIESEL FUEL CAPACITY 45 GALLONS

Service Points



Service Points

WATER TANK Fill water tank DAILY or more often depending upon working conditions. Use 8 ounces of COE SLING LUBE per tank refill. Take care not to allow debris in water tank when filling

HYDRAULIC OIL RESERVOIR/FILTER ALWAYS keep reservoir filled to proper level with clean oil. Fill to center of site glass on riser. DO NOT over fill or overflow will occur at operating temperature.

RADIATOR COOLANT NEVER check radiator coolant when hot. Fill to 1/2" to 1" from bottom of fill neck. Use a mixture of 50% water 50% high quality coolant. Overflow bottle is mounted on side of engine keep 1/2 full.

DIESEL RESERVOIR Fill diesel reservoir daily to prevent running out of fuel while operating. DO NOT smoke while refueling and stay away from flame and sparks. USE filtered high quality diesel fuel.

ENGINE OIL ALWAYS check engine oil level daily. Remove dip stick wipe clean, reinstall and remove for proper oil level. If below mark fill with high quality low sulfur 15-40w motor oil.

AIR CLEANER Clean air cleaner DAILY or MORE OFTEN in severe dust conditions. When cleaning check SAFETY element for any signs of dust that may indicate faults in the PRIMARY air cleaner. INSPECT air cleaner ducting regularly to for loose clamp, holes, or cracks. This can help prevent a dusted motor.

Components

Denison vane hydraulic pump 25-14 GPM

COE part number 15048

25 GPM section delivers fluid to the Husco 6000 control valve.

14 GPM section delivers fluid to the Husco 5000 control valve & dual cool system.



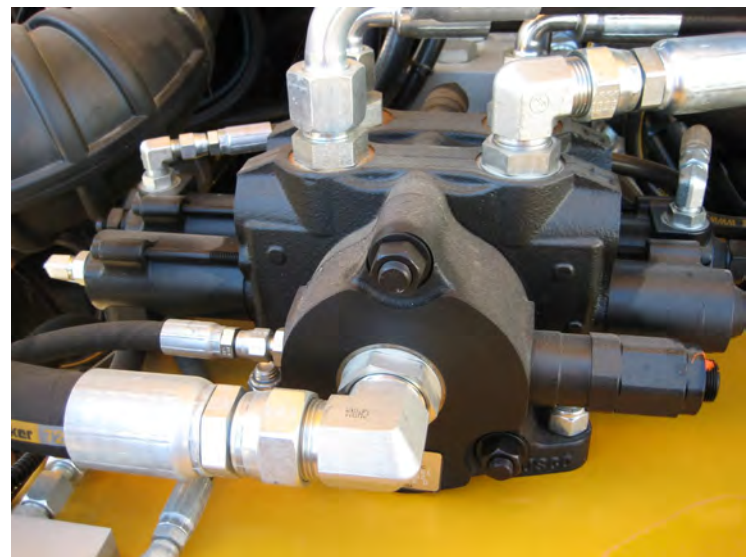
Husco 6000 control valve

COE part number 5808

Controls fluid to the sequence valve.

Controls fluid to the shaker head carriage in & out function.

Houses main system relief valve cartridge.



Husco 5000 control valve

COE part number 13257

Provides 4 GPM priority oil flow to the sweeper drive motors.

Controls fluid to the head roll function.

Controls fluid to the head lift function.

Houses relief valve for the 14 GPM section of hydraulic pump.



Components

Three station pilot control valve

COE part number 11765

Sends hydraulic pilot signal to the Husco 6000 control valve.

Sends signal to clamp lock out valve.



Four station pilot control valve

COE part number 12223

Sends hydraulic pilot signal to shift drive motors into high.

Sends pilot oil to active brake & park brake.

Sends hydraulic oil to sweeper lift function.

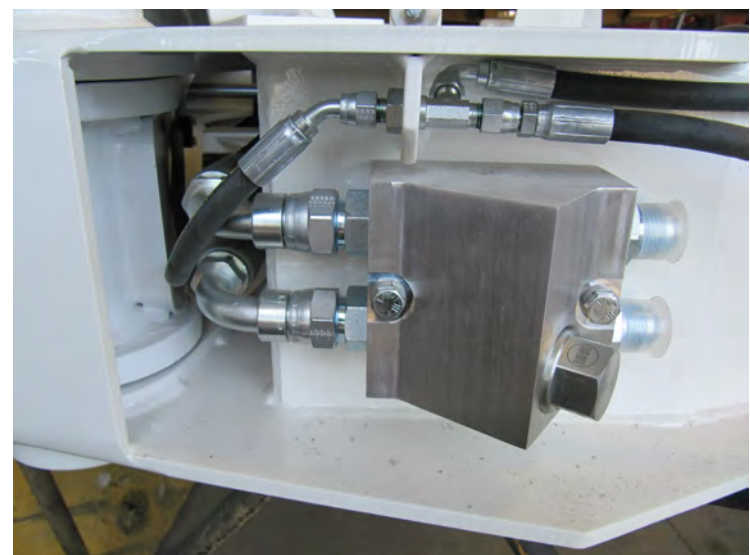


Clamp lock out valve

COE part number

Located at the rear of shaker head.

Maintains clamp pressure during shake.



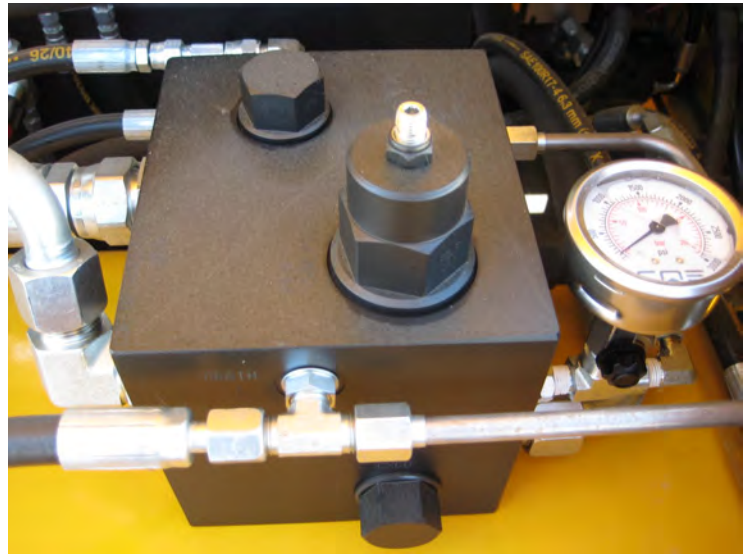
Components

Shake sequence clamp pressure valve

COE part number 5834

Controls clamp pressure, shake sequence, and shake brake functions.

Body houses clamp pressure adjustment cartridge, sequence valve cartridge, and the shake brake cartridge.



Shaker head drive motor (VOAC F12-110)

COE part number 5602

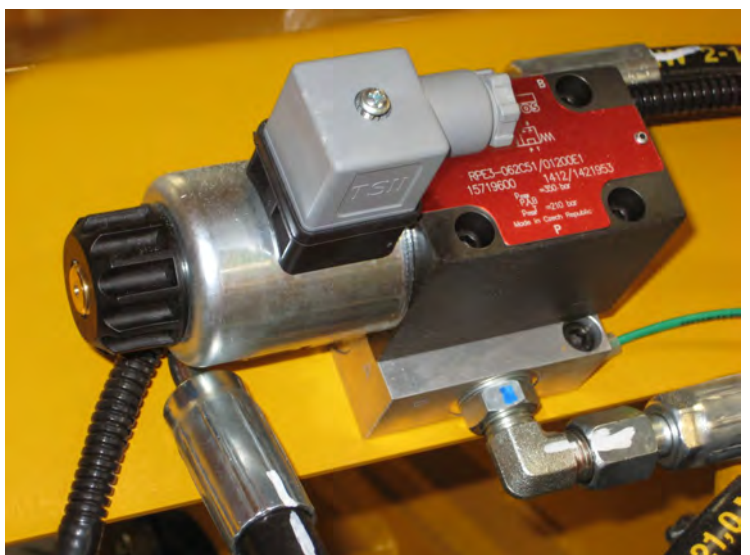
Hydraulic fluid from the Husco 6000 control valve is sent through the sequence valve to the head drive motor. (VOAC)



Sweeper control valve

COE part number 12085

Electrically controlled valve receives fluid from Husco 5000 valve and directs fluid to the sweeper drive motors.



Components

Water system control valve

COE part number 5813

Electrically controlled valve directs charge pressure fluid to water system hydraulic cylinder

in order to actuate water cylinder pump.



Rexroth hydrostatic pump

COE part number 2271

Supplies charge pressure fluid to pilot circuits and sweeper arm lift function.

Provides directional fluid power to drive motors.



Rexroth 2 speed drive motor

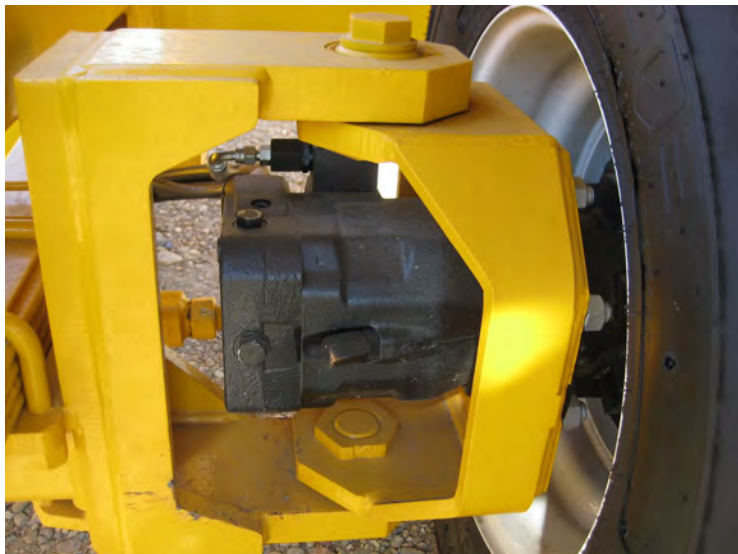
COE part number 2269

Motor receives fluid power from hydrostatic pump.

High speed occurs when motor is shifted

Internally by control oil sent from the four station

pilot valve.



Components

Auburn power wheel

COE part number 1471

19-1 ratio planetary drive hub.

Hubs can be disengaged.



Engine driven auxiliary pump

COE part number 11796

Pump delivers hydraulic fluid to the power steering system.

Pump houses steering relief valve.

Pump is located at the right hand side of engine mounted to the forward auxiliary drive.



Flow control for dual cool hydraulics

COE part number 14653

Flow control mounted on the vane hydraulic pump.

Controls the amount of fluid delivered to the dual cool system from the 14 GPM section of pump.



Components

Dual cool pump system

COE part number (coolant pump) 14652
COE part number (Eaton motor) 14645
Pump pushes coolant through the intake after cooler and low temperature radiator.
Pump is Driven by motor that receives fluid from the 14 GPM section of vane pump.



Dual cool fans

COE part number 14829
Fans push cool air through the low temp radiator.
Radiator is separated from engine radiator, hydraulic oil cooler, and A/C condenser.

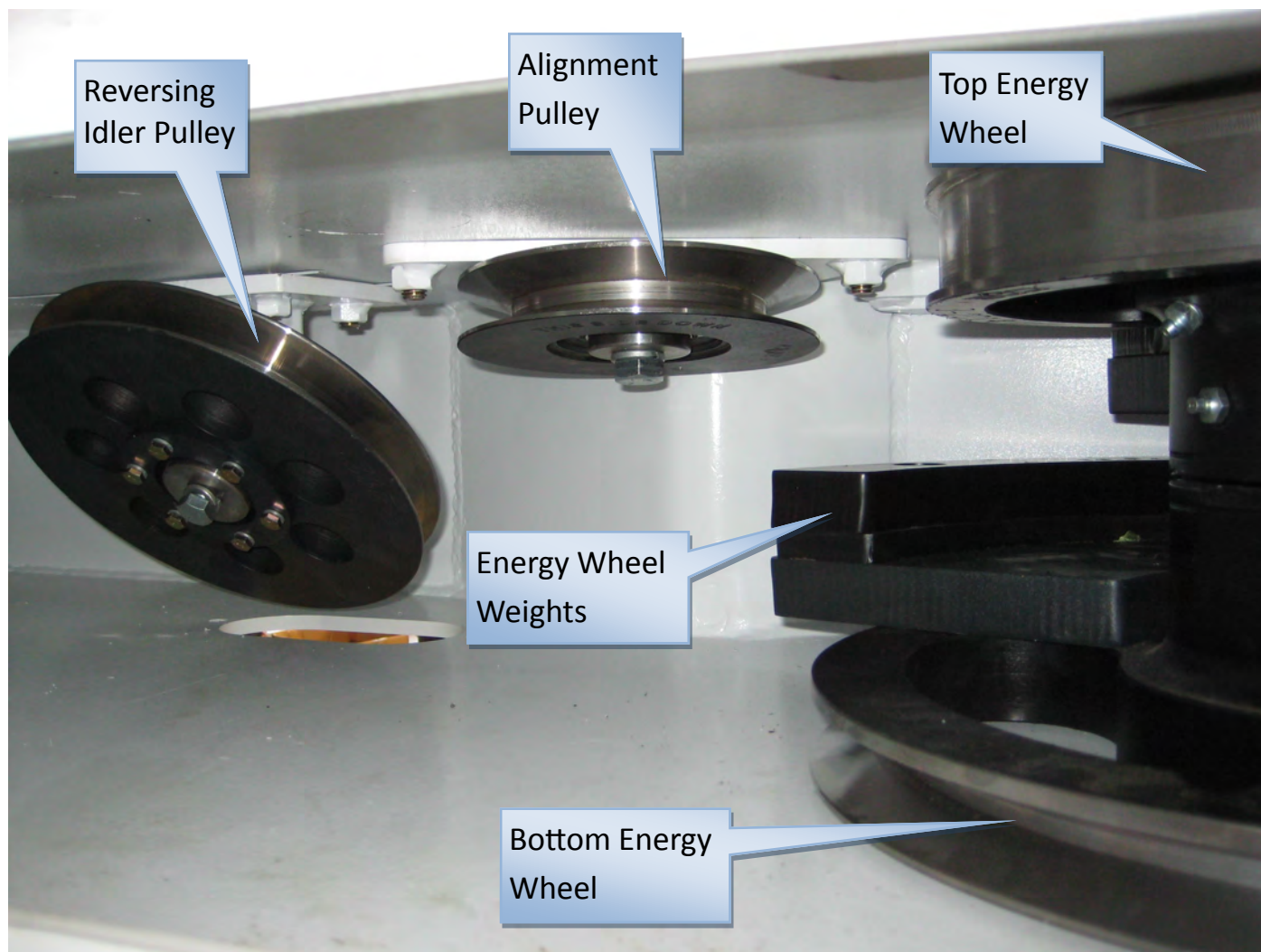


Cooling system package

COE part number (engine radiator) 13981
COE part number (HYD oil cooler) 13040
COE part number (A/C condenser) 11984

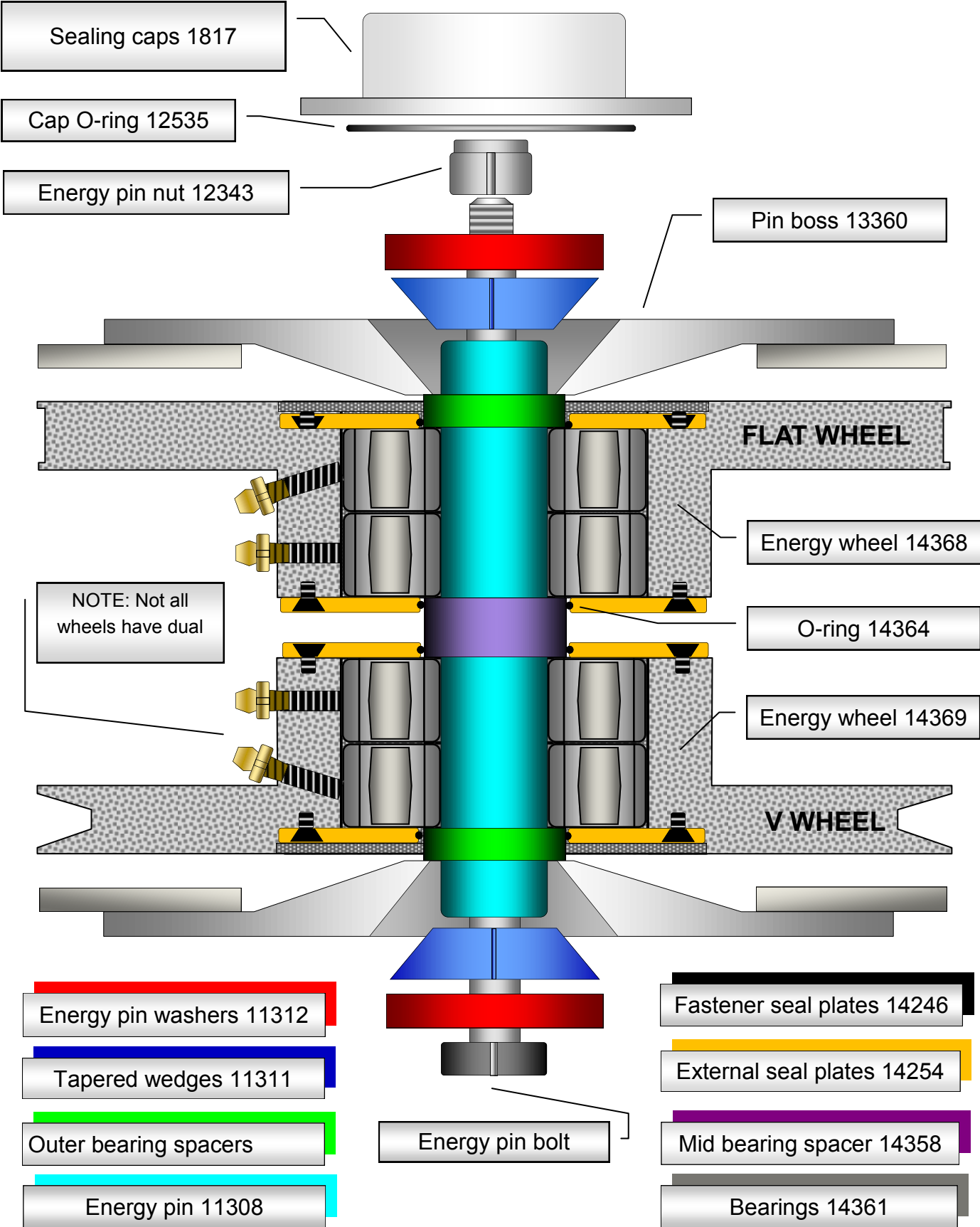


Shaker Head Internal Parts



Additional shaker head information on following pages.

Energy wheel components



A THROWN BELT CAN DAMAGE IDLER STAND.
A DAMAGED IDLER STAND CAN CAUSE BELT TO NOT ALIGN PROPERLY AND BE

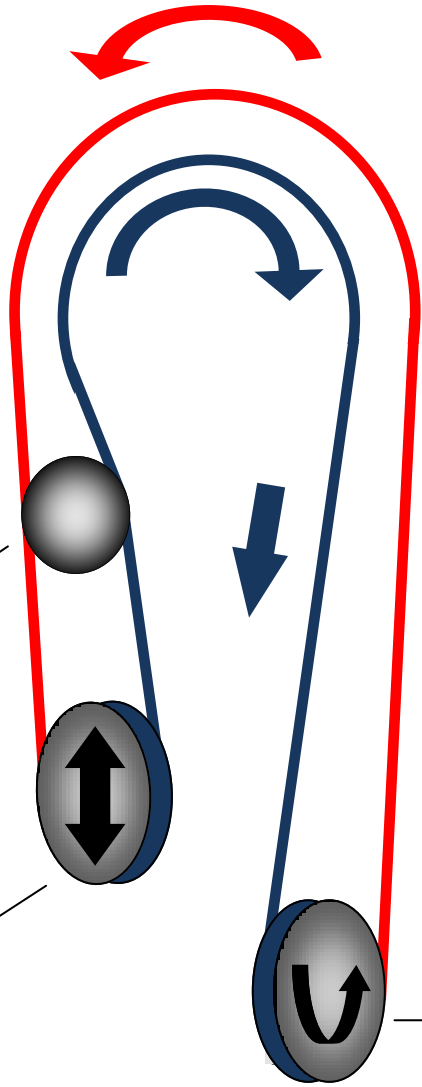
BELT ROUTING
(as viewed from top of head)

TWISTED BELTS ARE A SIGN THAT THE BELT IS TOO LOOSE.
LOOSE BELTS CAN BE THROWN OFF WHEELS BECOMING ENTANGLED

ALIGNING PULLEY

REVERSING IDLER PULLEY

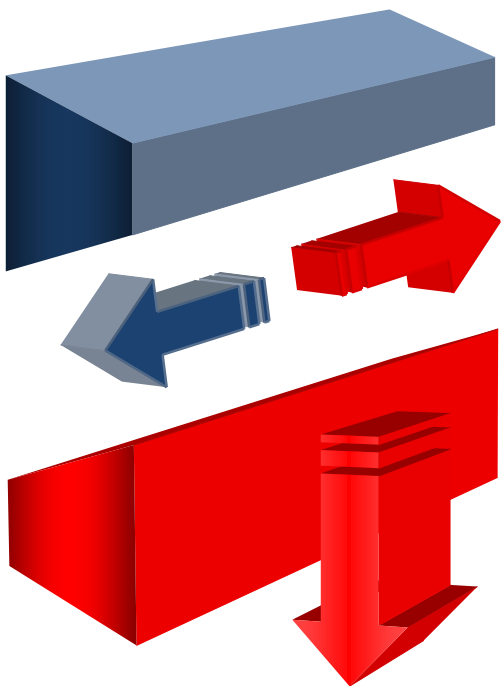
DRIVE MOTOR PULLEY



UPPER SECTION OF BELT HAS "V" TO OUTSIDE AND FLAT TO INSIDE.

LOWER SECTION OF BELT HAS "V" TO INSIDE AND FLAT TO OUTSIDE.

TO CHECK BELT TENSION PUSH FIRMLY DOWN ON LOWER SECTION OF BELT. PROPERLY ADJUSTED BELT SHOULD HAVE LESS THEN 1/4" MOVEMENT.



SHAKE PATTERNS FOR TH7 SHAKER HEAD

SEVERAL DIFFERENT WEIGHTS ARE AVAILABLE FOR THE TH7 SHAKER HEAD THAT WHEN USED IN CERTAIN COMBINATIONS RESULT IN DIFFERENT SHAKE PATTERNS. BELOW IS A LIST OF SHAKE PATTERNS AND THE COMBINATION OF WEIGHTS REQUIRED FOR EACH PATTERN.

IMPORTANT: WHEN CHANGING WEIGHTS NEVER REUSE RETAINING BOLTS

STANDARD ALMOND PATTERN:

“V” WHEEL WEIGHT COMBINATION: (1) NO. 2812 BASE WEIGHT & (3) NO. 13511 BAR WEIGHTS.

FLATWHEEL WEIGHT COMBINATION: (2) NO. 14153 MUSHROOM WEIGHTS.

BOLTS REQUIRED: (4) 5/8”SHCS X 2” (2) 5/8”SHCS X 3 3/4” (5) 5/8”SHCS X 4”

DRIVE SHEAVE REQUIREMENT: 13” ON VOAC 110 MOTOR OR 12” ON VOAC 80 MOTOR.

PATTERN DESIGNED FOR ALMOND TREES 5 TO 15 YEARS OLD. IF MORE WEIGHT IS NEEDED TRY ADDING MORE BAR WEIGHTS. **WHEN ADDING MORE THAN 2 BAR WEIGHTS THE TOP BAR WIEGHT MUST BE COUNTERSUNK, ALSO INSURE THAT NEW BOLTS DO NOT INTERFERE WITH BELT PROTRUDING BELOW BASE WEIGHT.**

WEIGHT COMBINATION FOR ALMONDS



“V” WHEEL WEIGHTS

FLATWHEEL WEIGHTS

STANDARD WALNUT & PECAN PATTERN:

“V” WHEEL WEIGHT COMBINATION: (1) NO. 13512 BASE WEIGHT & (6) NO. 13511 WEIGHTS.

FLATWHEEL WEIGHT COMBINATION: (3) NO. 13512 WEIGHTS & (1) NO. 13513 WEIGHT.

BOLTS REQUIRED: (4) 5/8”SHCS X 13/4” (4) 5/8”SHCS X 3 1/2” (5) 5/8”SHCS X 4 1/2”.

DRIVE SHEAVE REQUIREMENT: 12” ON VOAC 110 MOTOR OR 10” ON VOAC 80 MOTOR.

PATTERN DESIGNED FOR WALNUT & PECAN TREES 10 TO 30 YEARS OLD.

IMPORTANT: MAKE SURE THAT THE LAST BOTTOM WEIGHT IS A COUNTERSUNK WEIGHT SO THE BOLT HEADS CLEAR THE BASE WEIGHT ON THE BOTTOM “V” WHEEL. ALSO THE NO. 13512 WHICH IS A 1/2” HALF MOON MUST BE PLACED MID-STACK.



NO. 13513 WEIGHT

NO. 13511 WEIGHT

NO. 13512 WEIGHT

CROSS OVER WEIGHT & SHEAVE PACKAGE (EQUIPMENT OPTION)

THE CROSS OVER PACKAGE IS DESIGNED TO UTILIZE THE SAME SHAKER HEAD FOR ALMOND & WALNUT TREES. THIS IS ACCOMPLISHED BY BLENDING WEIGHT COMBINATIONS RESULTING IN QUICK ALMOND TO WALNUT PATTERN CHANGES, ADDING OR REMOVING WEIGHTS ALONG WITH A DRIVE SHEAVE CHANGE IS ALL THAT IS NEEDED TO CONVERT SHAKE PATTERNS FROM ONE TO ANOTHER.

WHEN THIS OPTION IS ORDERED THE SHAKER HEAD WILL BE SET UP AS FOLLOWS:

“V” WHEEL WEIGHT COMBINATION: (1) NO. 13512 BASE WEIGHT & (3) NO. 13511 WEIGHTS.

FLATWHEEL WEIGHT COMBINATION: (3) NO. 13521 WEIGHTS.

DRIVE SHEAVE REQUIRMENT: SAME AS STANDARD ALMOND ARRANGEMENT.

CONVERTING ALMOND PATTERN TO WALNUT PATTERN THE FOLLOWING IS REQUIRED:

ADD (3) NO. 13511 WEIGHTS TO “V” WHEEL & (1) NO. 13514 TO FLATWHEEL.

DRIVE SHEAVE MUST BE CHANGED TO STANDARD WALNUT SHEAVE .

BOLTS REQUIRED: (2) 5/8” SHCS X 3 1/2” & (5) 5/8” SHCS X 4 1/2”

REVERSE THIS PROCESS TO GO BACK TO ALMOND PATTERN.

CROSS OVER PATTERN WORKS WELL ON LARGE ALMOND TREES, BUT NOT ON SMALLER ALMOND TREES WHICH REQUIRE THE STANDARD ALMOND PATTERN.

IMPORTANT: WHEN CHANGING DRIVE SHEAVE ALWAYS CHECK FOR PROPER BELT TRACKING.

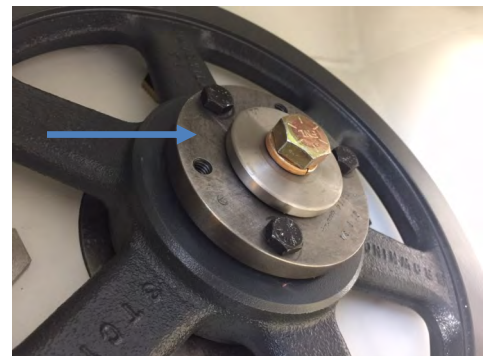
IMPORTANT: MAKE SURE ENERGY WHEELS ROTATE FREELY AFTER ANY WEIGHT CHANGES.

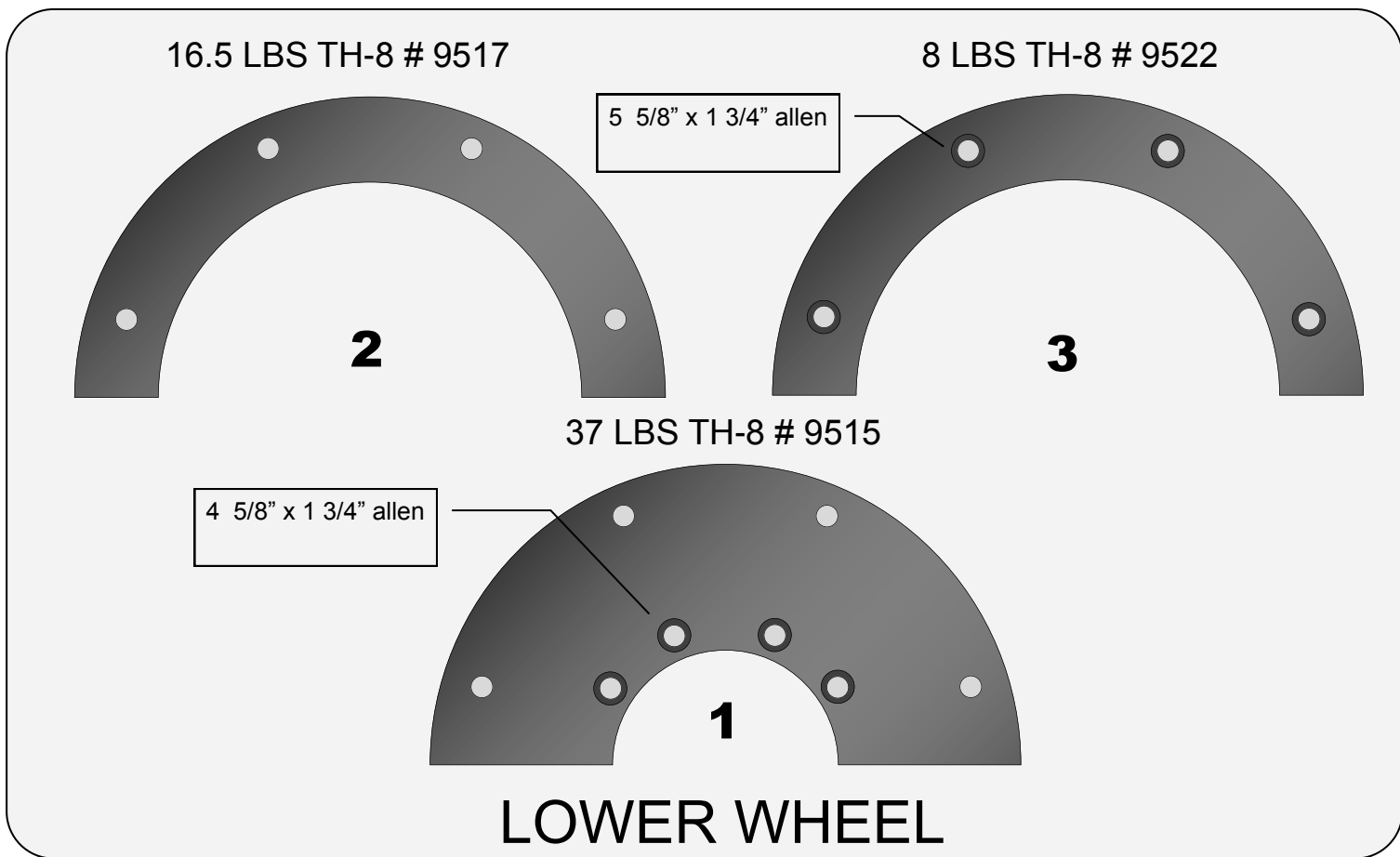
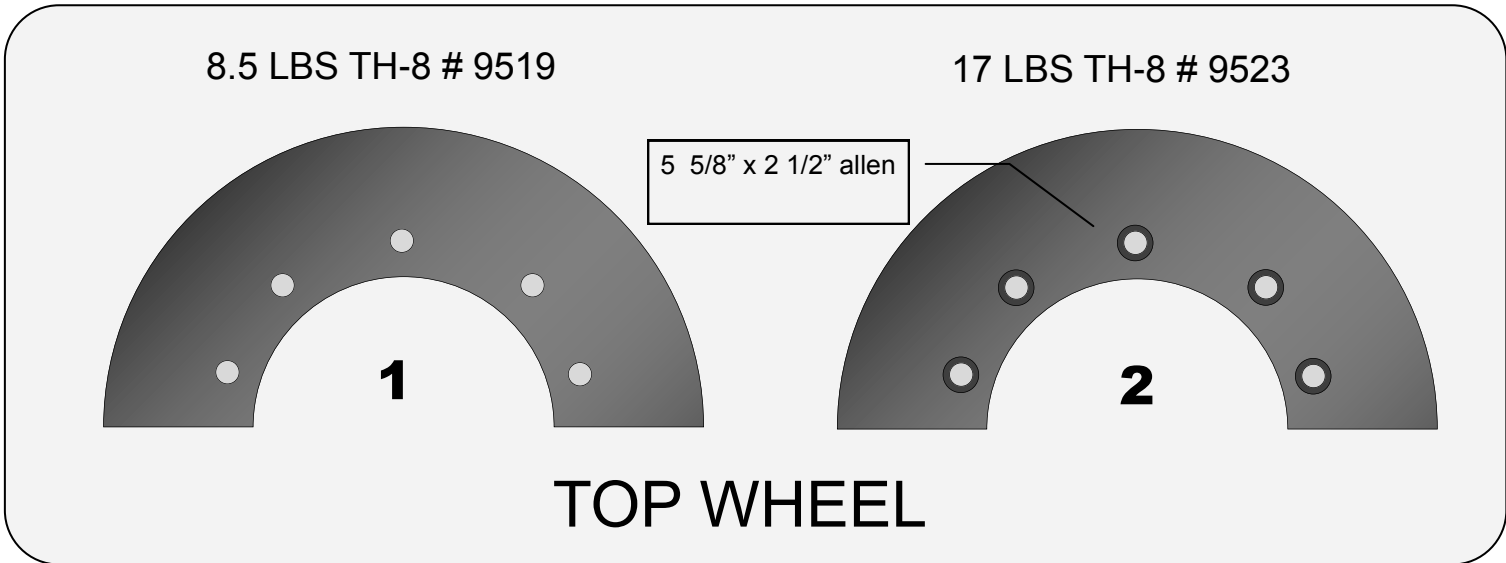
DRIVE SHEAVE SPACERS ARE DISIGNED TO QUICKLY ADJUST THE SHEAVES HEIGHT TO ALLOW PROPPER BELT TRACKING. SIMPLY TIGHTEN THE SPACER TO THE FACE OF THE MOTOR SHAFT AND THEN TIGHTEN THE QD BUSHING TO THE SHAFT MAKING SURE THE QD BUSHING RESTS ON THE SPACER AS SHOWN.

FOR A VOAC 80 THERE ARE TWO AVAILBLE OPTIONS: A #13580 FOR 10” SHEAVES AND A #13581 FOR 12” SHEAVES.



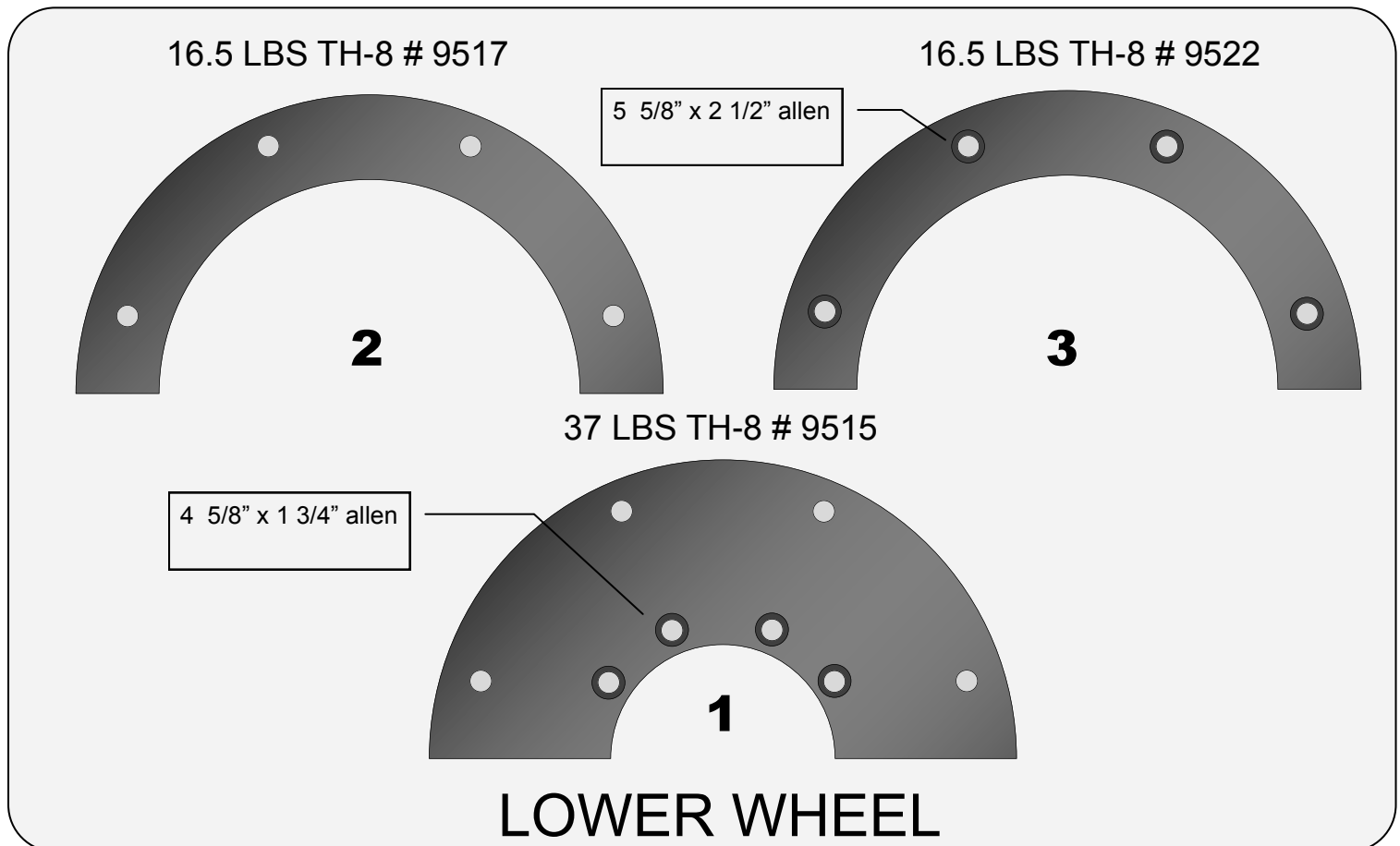
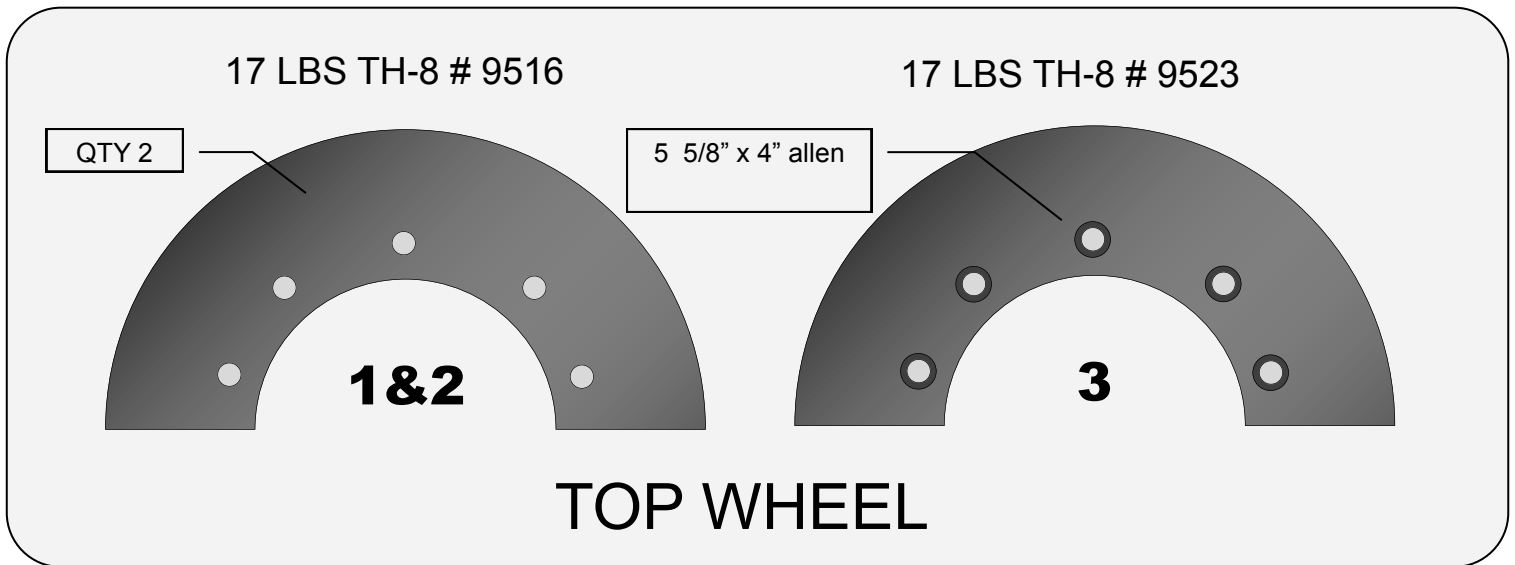
FOR A VOAC 110 THERE ARE ALSO TWO OPTIONS: A #2114 FOR 10” AND 12” SHEAVES AND A #3415 FOR 13” SHEAVES





NOTE: WHEN CHANGING WEIGHTS **ALWAYS** DISCARD USED BOLTS AND INSTALL NEW BOLTS. **USE** LOCTITE BLUE THREADLOCKER PART# M-LT08531. FAILURE TO USE NEW BOLTS WILL RESULT IN BACKING OUT AND SHEARING OF BOLTS CAUSING **EXTREME DAMAGE**.

MD Pattern



NOTE: WEIGHTS LISTED ARE THE SUGGESTED PACKAGE FOR EACH PATTERN. WEIGHTS CAN BE VARIED DEPENDING ON MANY FACTORS. PLEASE CONSULT THE FACTORY OR YOUR DEALER WITH ANY QUESTIONS ABOUT DIFFERENT WEIGHT PATTERN AVAILABILITY.

Trouble Shooting

Sweepers will not rotate

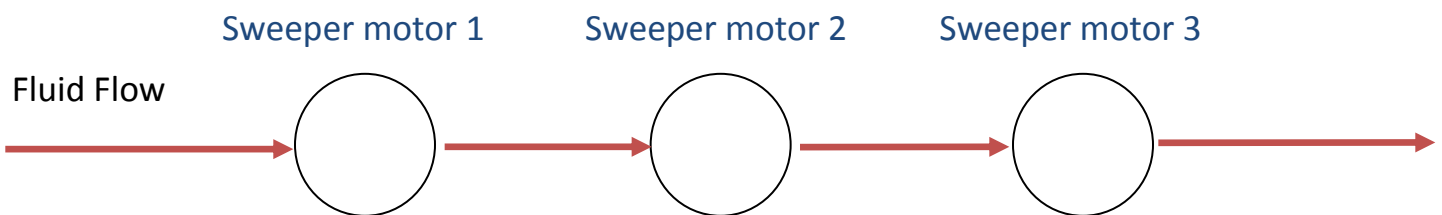
- 1) Check all sweepers for debris that may be wedged between brush & bracket, sweeper motors should rotate freely.
- 2) Make sure sweeper motor is not internally seized, again motors should rotate freely.

Check for seized motor

Check for debris



NOTE: Sweeper motors work in series, hydraulic fluid is displaced from one to another, if one motor stops rotating the other motors will stop.



- 3) Check electrical circuit that controls sweeper hydraulic valve (Hytos valve).
 - a) Inspect low dash fuse.
 - b) Test circuit running from dash switch to the pressure switch (Nason switch).
 - c) Test circuit from pressure switch (Nason) to hydraulic valve coil (Hytos valve).
 - d) Check ground circuit for hydraulic valve electrical coil.

Nason pressure switch located behind water tank

NOTE: The above circuits will have green wires



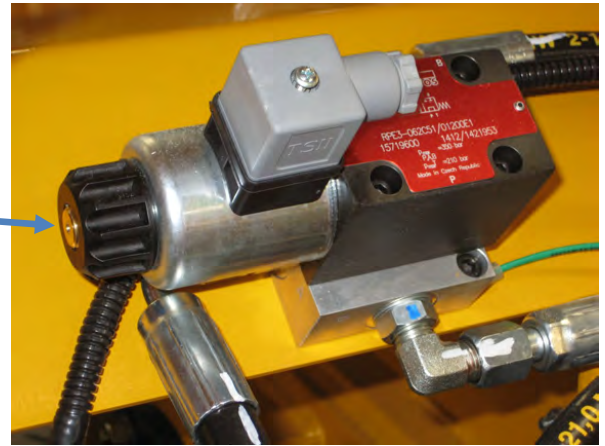
Trouble Shooting

Sweepers will not rotate (continued)

4) Check Hytos valve for sticking.

- a) Manually override valve to determine if valve is stuck.
- b) If sweepers work, inspect, clean and service the valve.
- c) If no change inspect the priority valve located at inlet section of Husco 5000 valve.
Refer to page 3 for priority valve and test port locations.

Manually override by inserting tool & pushing in about one quarter of an inch



Sweepers will not stop rotating

- 1) Check pressure switch for malfunction.
- 2) Check Hytos valve for being stuck open.

Sweepers rotate at a slow speed

- 1) Make sure sweepers are properly adjusted in relationship to the ground.

NOTE: Hydraulic resistance results from all three sweeper brushes contacting the ground.

Sweeper angle adjustment bolts
(front or leading edge of sweeper angled down)

Sweeper arm height adjustment bolt



Trouble Shooting

Sweepers rotate at a slow speed (continued)

- 2) Check for tree rope, rocks, & branches between the sweeper brush plate and bracket.
- 3) Manually override hydraulic valve to insure the spool is completely stroked or shifted.
- 4) Check relief valve located at Husco 5000 inlet section for possible malfunction.
 - a) Connect test gauge at test port on side of valve, pressure should be 1500-1800 psi.
- 5) Possible rear section failure of hydraulic pump (other indicators, slow head lift & roll)
 - a) Flow test rear section of pump, should develop 2000 psi at normal operating temp.

Sweeper priority valve

Test port



Head lube system not working

- 1) Make sure charge system pressure is correct. (350-400 psi)
- 2) Check for water in tank.
- 3) Make sure water system hydraulic cylinder is being actuated, if it is check the following.
 - a) Inspect the one-way check valve and diaphragm valve.
 - b) Check supply hose from the tank to the check valve for a restriction or blockage.
 - c) Manually actuate water cylinder (American) should create pressure or a suction.

Diaphragm valve

One-way check valve

Water cylinder (American)

Hydraulic cylinder (COE)

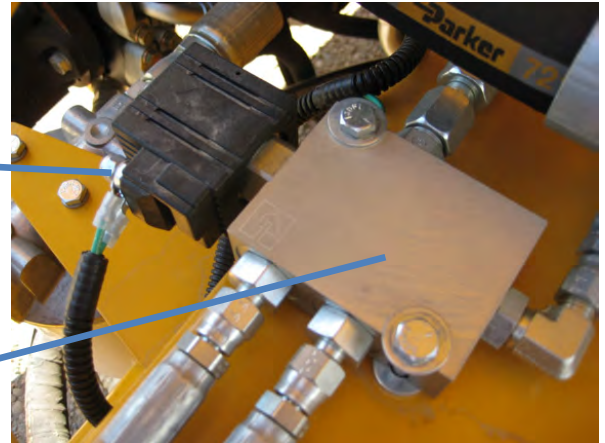


Trouble Shooting

Head lube system not working (continued)

- 4) Make sure hose from water pump cylinder to water manifold is not restricted or plugged.
- 5) Make sure fluid can flow through the head water manifolds.
- 6) Check four way valve coil & cartridge.

- a) Check for current from joystick button or remote toggle switch to the coil.
- b) If good, is the valve coil post magnetized?
- c) If not magnetized check for proper ground.
- d) If ground circuit is good replace coil.
- e) If all of the above is good inspect valve.



Shaker head roll function not working

- 1) Make sure there is electrical current being sent to either coil of the hydraulic control valve when the joystick button is depressed, valve located to the right of cab behind the front access panel.
 - a) If there is no electrical signal check joystick fuse.
 - b) If fuse is good check joystick buttons.
 - c) If buttons are good test for an open circuit.
 - d) If there is an electrical signal check ground circuit for coil and test coil.
- 2) If no problem was found with electrical system, check the hydraulic system as follows:
 - a) Make sure the shaker head lift function works.
 - b) If lift function works then manually override the roll function section of the control valve.
 - c) If both roll and lift functions are not working check the relief valve, if relief valve is good test the hydraulic pump.

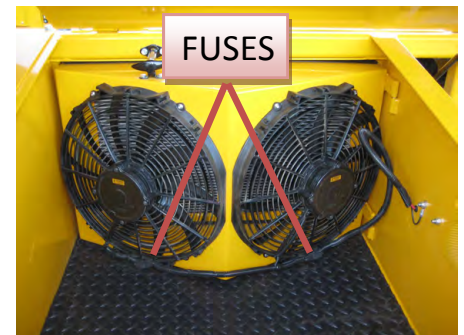
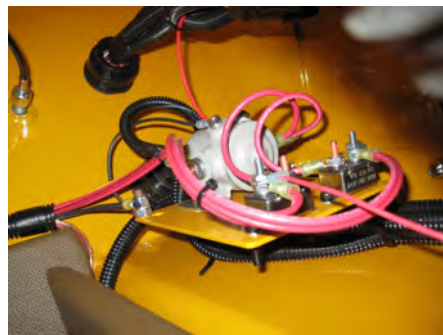


Roll function manual override points

Trouble Shooting

Shut down due to high intake temperature

- 1) Check for debris around all air inlet screen locations, external & internal.
- 2) Make sure cooling fans are operating when ignition switch is on.
 - a) If fans are not working check fan solenoid relay, make sure switched power is present.
 - b) If switched power is not present, check main relay & breakers, located inside cab.
 - c) If solenoid relay is good check fan fuses.
 - d) If fuses are good check for faulty ground.



- 3) Make sure all air hose connection are correct and secure.
- 4) Make sure sufficient coolant is flowing through Dual Cool System.
 - a) Check coolant level in reservoir tank.
 - b) With engine running check for coolant flow at reservoir tank.
 - c) If no flow make sure coolant pump is driven by hydraulic motor.
 - d) If pump is not turning check for seized pump or faulty drive coupling.
 - e) If both are good check hydraulic motor or flow divider at Denison pump.
 - f) Check pump by operating head roll & lift functions.

Dual Cool hydraulic drive motor

Dual cool water pump



Trouble Shooting

Shaker head will not clamp or unclamp

- 1) Check for correct charge pressure on dash gauge or excelerate display.
- 2) Check for clamp cylinder failure.
- 3) Check joystick fuse.
- 4) Check for electrical current at coil on three station valve when joystick button is depressed.
 - a) If there is no current at coil check joystick button.
 - b) If there is current check coil ground and coil.
 - c) If electrical circuit is working properly the pilot valve coil post should become magnetized, test by placing screwdriver against post.



Magnetized post

- 5) Make sure Husco 6000 valve is receiving hydraulic signal from pilot valve.
 - a) If no pilot signal inspect pilot valve. (Signal is charge pressure)
 - b) If pilot signal is good inspect Husco 6000 hydraulic valve.
 - c) If both valves are good inspect lock-out valve located at rear of head.
- 6) Test main hydraulic system relief pressure with “in & out” hydraulic circuit. (3000 psi)

Shaker head will clamp but not shake

- 1) Make sure operating system pressure is good at the dash gauge or excelerate display.
- 2) Check shaker head drive belt for possible failure.
- 3) Disengage belt from energy wheels and check that wheels rotate freely.
- 4) Check head drive motor (VOAC) for excessive case drain. (indicates internal leakage)
(refer to following page to diagnose VOAC motor)
- 5) Make sure drive motor is not internally seized up or broken.

Shaker head hydraulic drive motor (VOAC)



Trouble Shooting

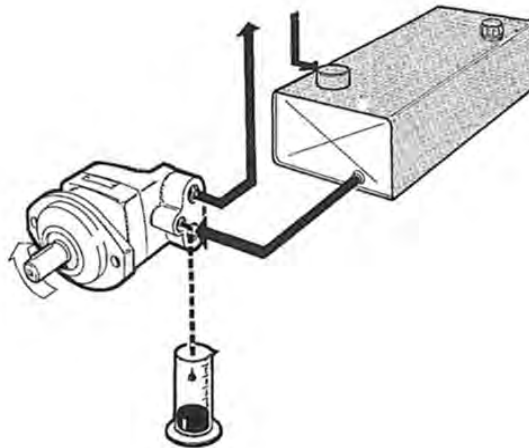
Hydraulic Motor/Pump

Series F12

Operational Check

The general condition of the unit can be established by checking the drain flow. Remove the drain line and keep the drain port above a suitable container. Run the unit at normal speed and pressurize the system to 2000-3000 psi. (150 - 200 bar)

Measure the drain flow for one minute; if it exceeds the maximum figures shown below, the unit is worn or damaged internally and should be replaced or repaired. Also, check for leakage at the shaft seal and between the bearing and barrel housings.



Series	Normal cu.in./min (l/m)		Max gpm. (l/m)	
F12-30	24	0.4	.55	2.0
F12-40	30	0.5	.65	2.5
F12-60	43	0.7	.70	2.7
F12-80	61	1.0	.80	3.0
F12-110	61	1.0	.80	3.0

Trouble Shooting

Shaker head will clamp & shake but low on power

- 1) Make sure operating system pressure is good at the dash gauge or excelebrate display.
- 2) Check shaker head drive belt for slipping, check for proper belt tension.
- 3) Disengage belt from energy wheels and check that wheels rotate freely.
- 4) Check head drive motor (VOAC) for excessive case drain. (indicates internal leakage)

Shaker head will not stop shaking

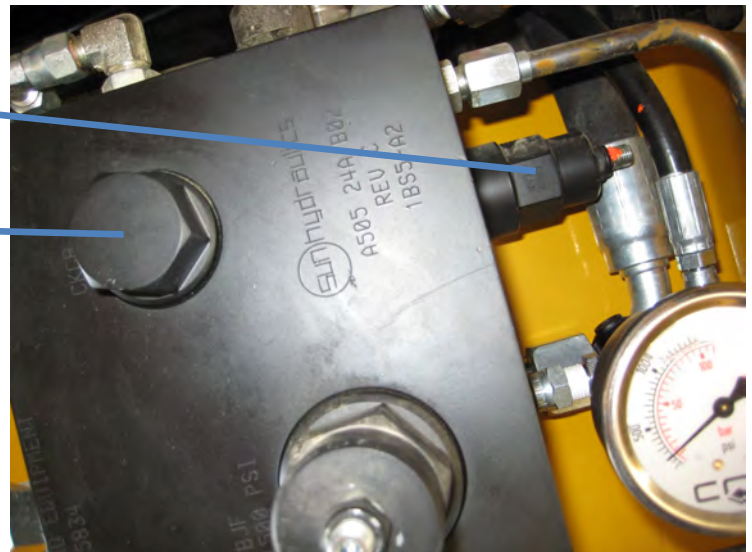
- 1) Make sure there is no electrical current at pilot valve coil when button is released.
 - a) If there is electrical current check for faulty joystick button switch.
 - b) If there is no current check for sticking pilot valve. (three station pilot valve)
 - c) If pilot valve is good check the Husco 6000 valve for a stuck spool.

Shaker head is slow to stop shaking

- 1) Make sure clamp pilot valve coil post is not magnetized. (no current from joystick button)
- 2) Adjust shake brake cartridge, if no change inspect cartridge for debris or failure.
- 3) Inspect CKGB check valve for sticking or debris.
- 4) Check shaker head drive motor (VOAC) for excessive internal leakage.

Shake break relief cartridge

CKGB check valve



Trouble Shooting

Shaker head “barking” trees

- 1) Make sure machine is being operated properly.
- 2) Make sure head lube system is functioning properly.
- 3) Make sure water to silicone ratio is correct. (1 quart Shake slick to 25 gallons of water)
- 4) Inspect condition of flaps, slings, & shaker pads.
- 5) Make sure clamp pressure is appropriate for trees.
 - a) 1200 for young almonds to 1600 for older trees.
 - b) 1200 for young walnuts to 1800 for older trees.

Adjusting clamp pressure

a) Set park brake



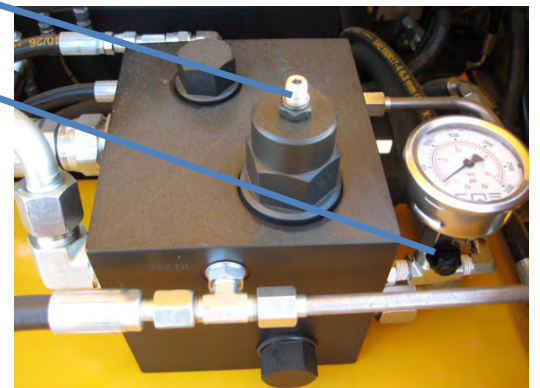
b) Set fixed throttle at 1800 RPMs

c) open shut off valve to gauge

d) Actuate toggle switch to clamp head

e) Adjust valve to appropriate clamp pressure

f) When adjustment is done zero gauge & close valve



Trouble Shooting

Shaker head “barking” trees (continued)

- 6) If barking results from the clamp arm check sequence for being out of adjustment.
- 7) Make sure clamp cylinder is functioning properly.
- 8) Inspect lock out valve located at rear of shaker head.
- 9) If shaker head drops during shake inspect lift function lock out valve.

PX wear strips disengaging from shaker head carriage

- 1) Check for excessive gap between mast and retainer plates.
- 2) Check for a build up of debris between carriage and mast.
- 3) Check for residue build up on mast.
- 4) Constant over extension of carriage on mast. (fully extending trunnion cylinder to often)
- 5) Check for loose hanger mounts that will create an imbalance with carriage and head.

Carriage

IPX wear strip location

Mast (stinger)

Retainer plate

Hangers (birdcage)



Trouble Shooting

Low or no charge pressure

Correct charge pressure is 350-400 psi.

If charge pressure drops to low or does not exist the park brake will not disengage and there will be a loss of hydraulic functions.

In order to identify where the loss of charge pressure is taking place the following steps need to be performed.

- 1) Remove T fitting at hydrostatic pump and connect test gauge, start engine if correct charge pressure is restored the loss of charge pressure will be within one of the pilot circuits.

T fitting

Connect test gauge

Hydrostatic pump



- 2) If charge pressure is not restored the hydrostatic pump will need to be isolated from the drive motors. Disconnect the two hoses that run from the pump to the T fitting located on the right hand drive motor and plug the hoses with a number 12 JIC plug, retest.

- 3) If charge pressure is restored the pressure loss will be with one or both drive motors, if not restored the hydrostatic pump is at fault.

Disconnect hoses and plug

Right hand drive motor



Trouble Shooting

Low or no charge pressure (continued)

- 4) The T fitting that was removed splits the charge pressure into two separate pilot circuits,
 - a) Straight line of T fitting directs oil to the three & four station pilot valves, the joystick pilot control valve, and the water system activation valve.
 - b) The 90 degree of the T fitting directs oil to the foot controlled pilot valve.
- 5) If drive motor system is at fault each motor will need to be insolated from one another as they relate to the hydrostatic pump to determine which motor has failed.
- 6) The process of elimination will be required to determine which component is at fault.

Charge pressure delivered to foot controlled pilot valve

Charge pressure delivered to three & four station pilot valves, joystick pilot valve, and Water system activation valve.



Operational Tips

Operating engine at correct rpm

It is recommended to set the fixed throttle at 1800 engine rpms when shaking. Depending on the size of tree the rpms can be less or slightly more. Use the foot throttle to accelerate from tree to tree.

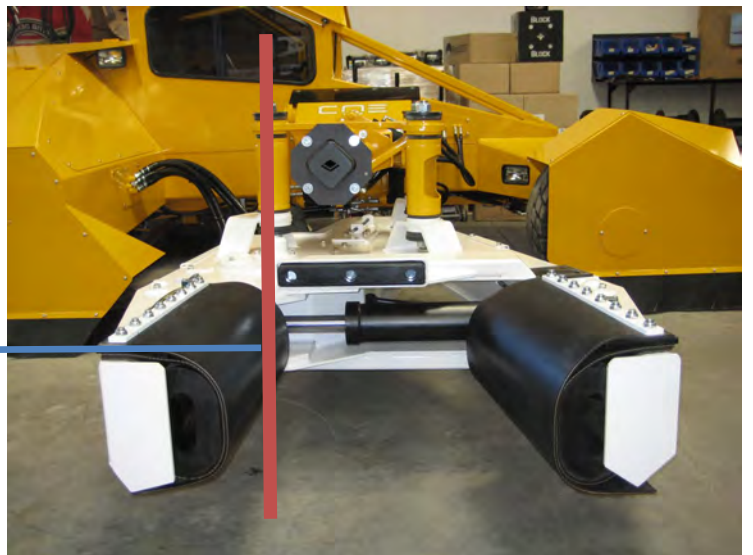
Fixed throttle control



Correct position of head & tree

When extending the shaker head towards the tree make sure tree favors the rear pad before clamping.

Correct tree position in relation to pad



Unclamping shaker head

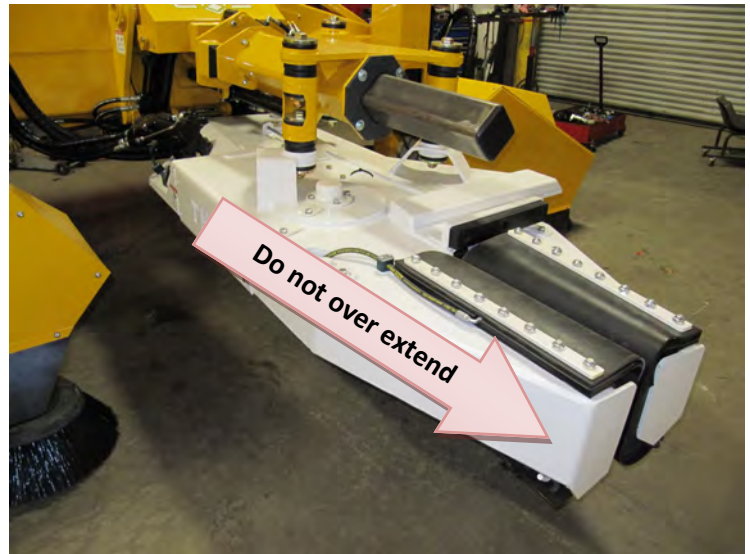
Make sure the head has stopped shaking before unclamping head. Also make sure head is unclamped before retracting head.



Operational Tips

Carriage / head in & out function

When extending the shaker head toward the tree do not over extend to the point that the trunnion cylinder bottoms out internally.

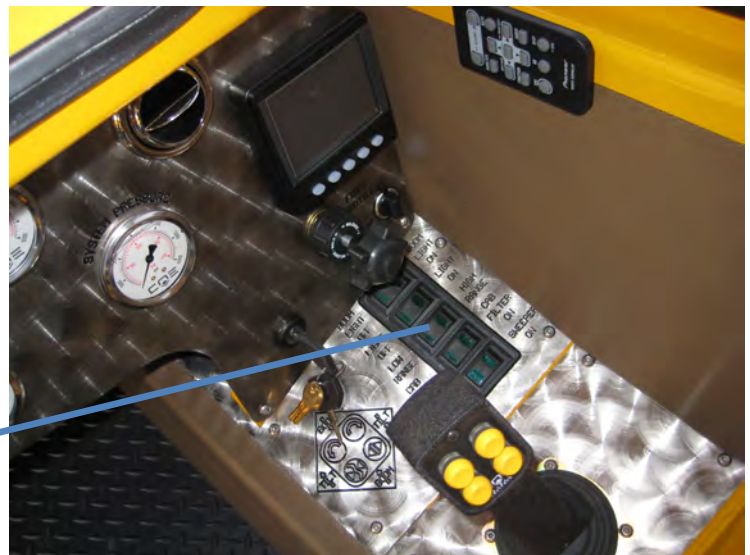


High speed ground drive

Do not use hydrostatic drive in high range when on rough roads or bumpy terrain. May shift on the go from low to high.

NOTE: It is recommended to shift from high to low when machine is at a complete stop.

Low range / high range switch



Energy pin bolt

Periodically remove cap and check bolt nut for movement or signs of becoming loose.





Service Bulletin

Subject: Required thread locking compound

Required Action: When installing a **new** energy pin bolt and nut, or when installing **new** weight retaining cap screws the following thread locking compounds are required for the correct installation of these items. NOTE: *Make sure there is no oil, grease, or dirt on threads before applying thread locking compound.*

Use high strength high temperature

Loctite 272 on energy pin bolt & nut

Use medium strength

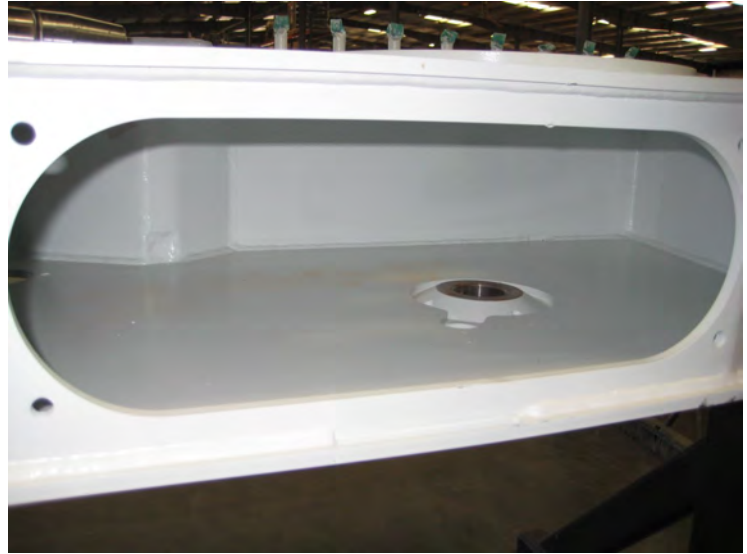
Loctite 246 on weight cap screws



Energy Wheel Installation

STEP 1

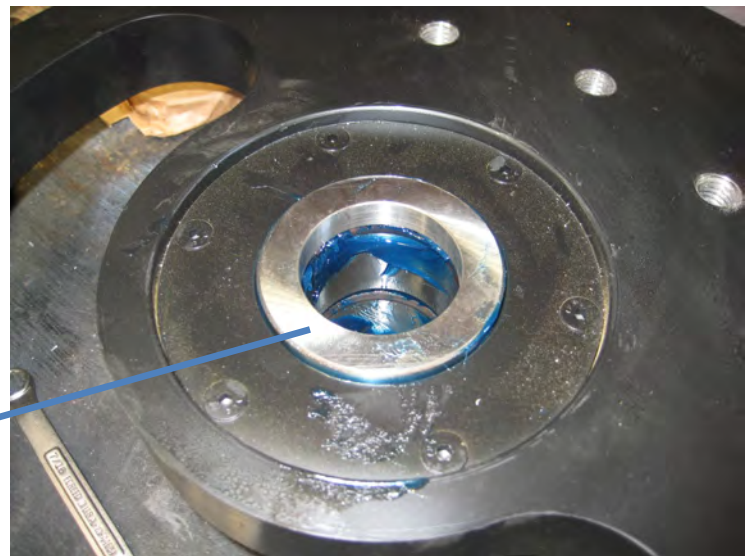
Prior to installing wheels make sure case is clean and free of debris. Also prior to installing wheels make sure the wheel bearings are full of grease.



STEP 2

Install outer bearing spacer into the flat side of the V groove wheel, make sure O-ring has been installed in groove of retaining plate prior to installing outer spacer.

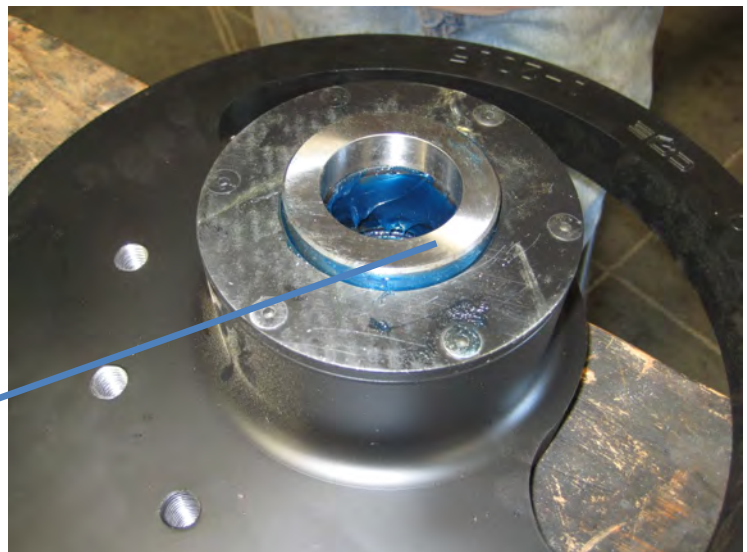
Outer bearing spacer



STEP 3

Flip wheel over and install the mid bearing spacer, again making sure O-ring has been installed in groove of retaining plate prior to installing mid bearing spacer.

Mid bearing spacer

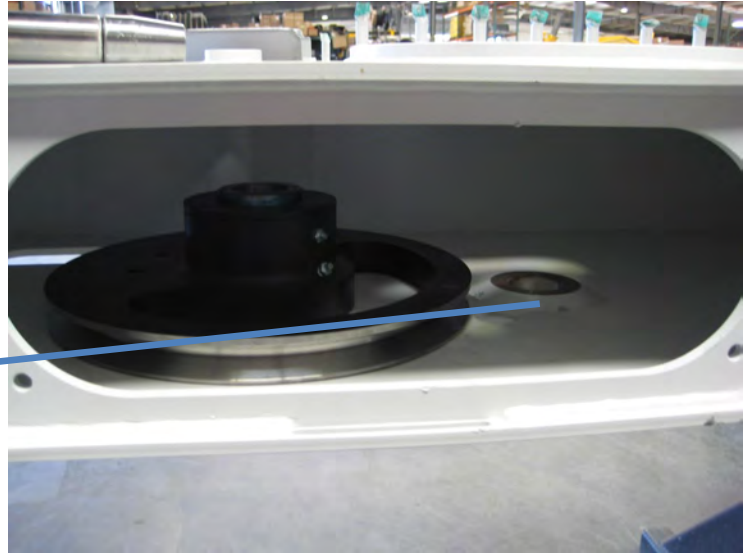


Energy Wheel Installation

STEP 4

Place the V wheel (bottom wheel) inside the case to the left of the lower bearing boss.

Lower bearing boss



STEP 5

Install the second outer bearing spacer into the flat side of the flat faced wheel, make sure O-ring is in place prior to installing outer bearing spacer.

Second outer bearing spacer



STEP 6

Place flat faced wheel (top wheel) over the bottom wheel, do not force wheel into place, damage may occur to mid bearing spacer. Install a bottle jack on lower bearing boss using a thick / wide washer between the jack and upper bearing boss.

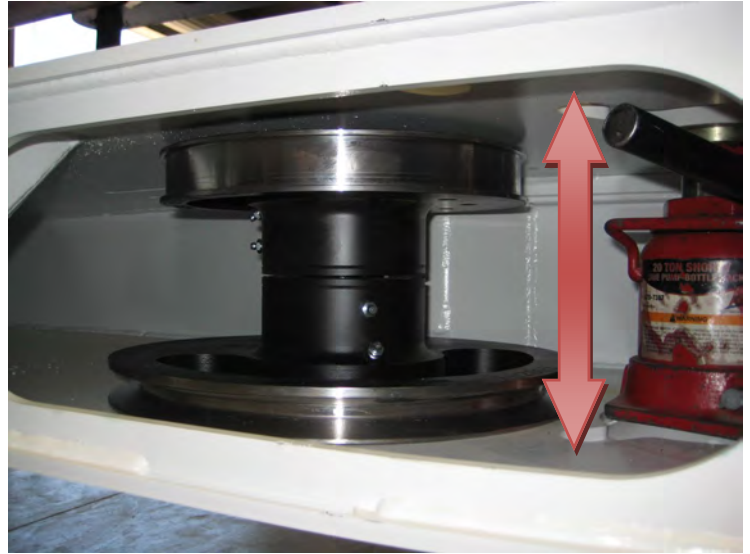
Thick / wide washer placement



Energy Wheel Installation

STEP 7

Apply bottle jack pressure to the case just enough for the top wheel to slide over the mid bearing spacer to engage O-ring.



STEP 8

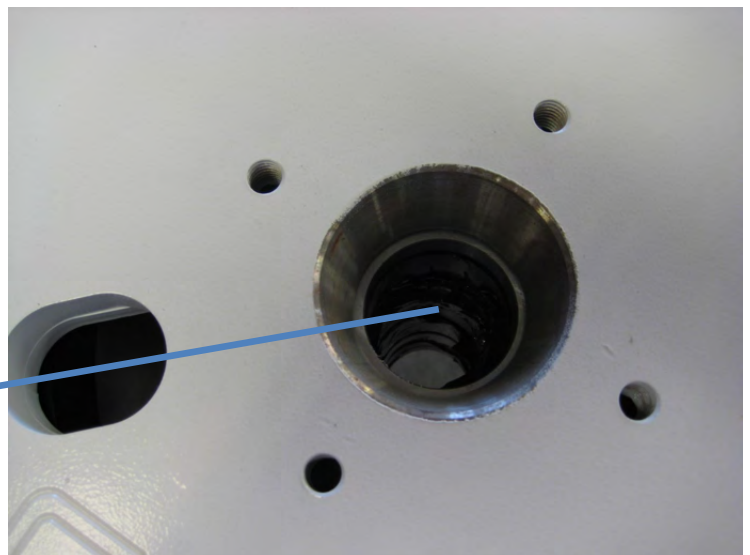
Reposition bottle jack and slide both wheels towards the lower bearing boss, again apply jack pressure to the case just enough to slide wheels into place



STEP 9

Looking down through the upper bearing boss center the energy wheels with the taper of the bearing boss.

Upper bearing boss bore

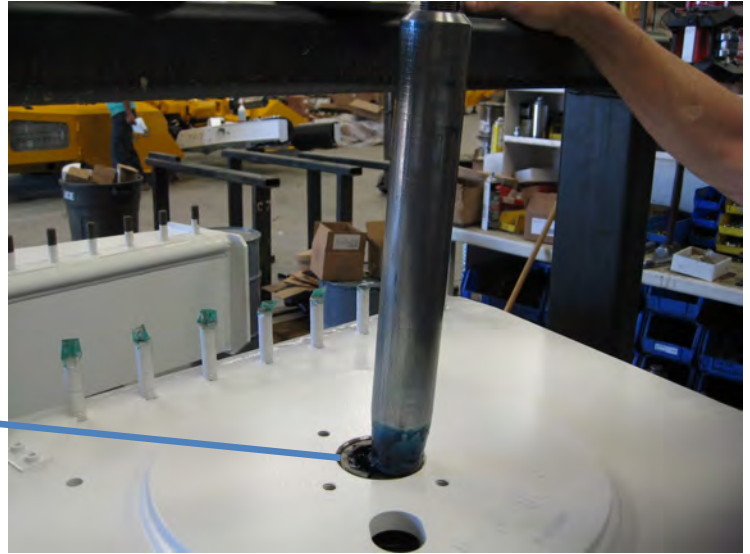


Energy Wheel Installation

STEP 10

Place the split wedge in the taper of the upper bearing boss then insert the 14" alignment tool (COE part no. 13621) into the bearing boss and wheels.

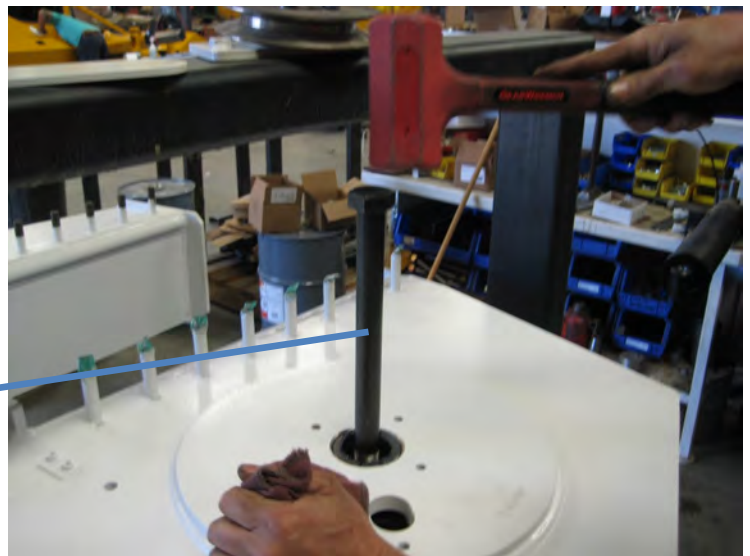
Split tapered wedge



STEP 11

Completely push or drive the alignment tool all the way through the case to properly align the wheel assemblies.

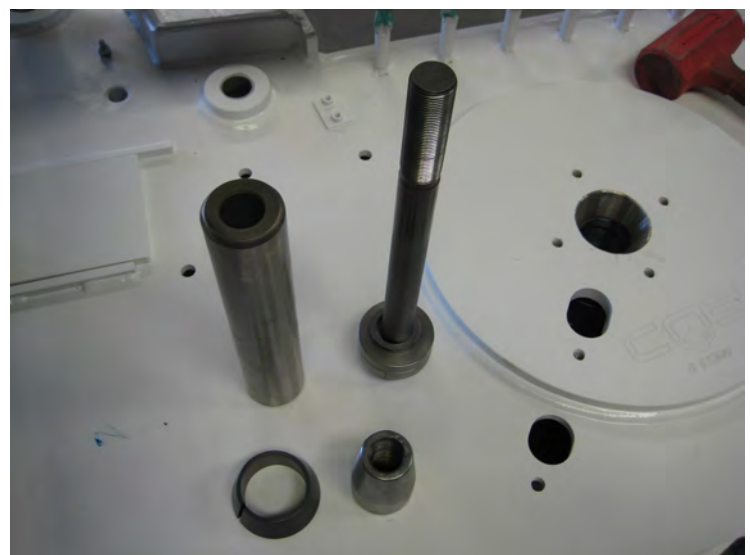
Thread a bolt into the tool to help drive tool through the wheels.



STEP 12

Stand a **new** energy pin bolt upright, then stack one energy pin washer onto the bolt followed by the lower split wedge and the energy pin.

NOTE: Internal chamfer side of washer must be against the bolt head.



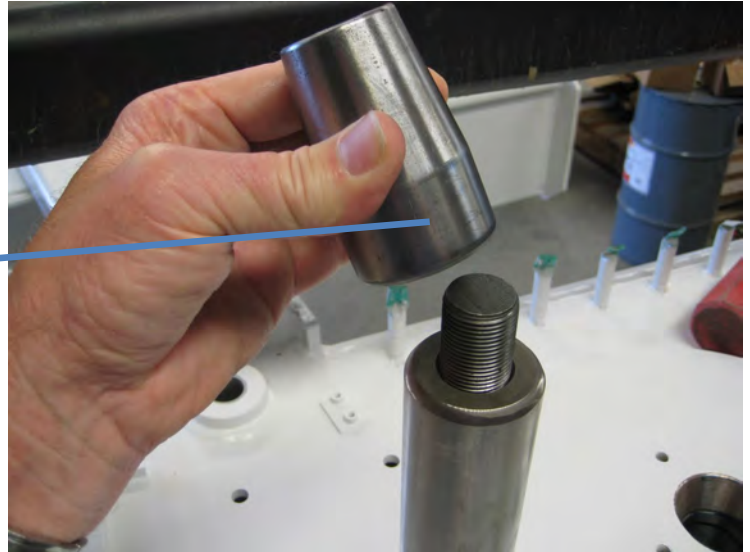
Energy Wheel Installation

STEP 13

Install 4" installation tool onto the bolt.

Make sure rounded edge of energy pin is against installation tool.

(COE tool part number 13622)



STEP 14

Place the COE part 5537 hydraulic cylinder through and on top of the upper boss. The rod of the cylinder should extend through the wheel assemblies.



STEP 15

Thread the tool and energy pin stack onto the end of the hydraulic cylinder. Use a suitable hydraulic supply to pull the energy pin into the wheels.

NOTE: Apply anti-seize to energy pin.



Energy Wheel Installation

STEP 16

When cylinder is fully retracted or at end of stroke, extend cylinder rod enough to insert installation stand.



STEP 17

Complete the installation of energy pin until the lower wedge is seated into lower bearing boss.

Installation stand COE part no. 14093



STEP 18

Remove the energy pin bolt and energy pin washers.



Energy Wheel Installation

STEP 19

Install the **new** energy pin bolt with lower energy pin washer and lower split wedge.

Install upper split wedge and upper energy pin washer along with **new** energy pin bolt nut.



STEP 20

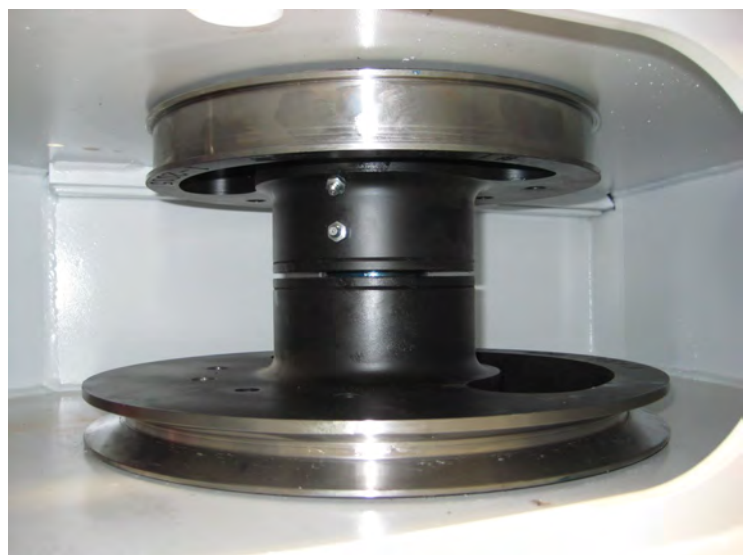
Torque nut to 600 foot pounds then an additional 90 degrees of nut rotation.



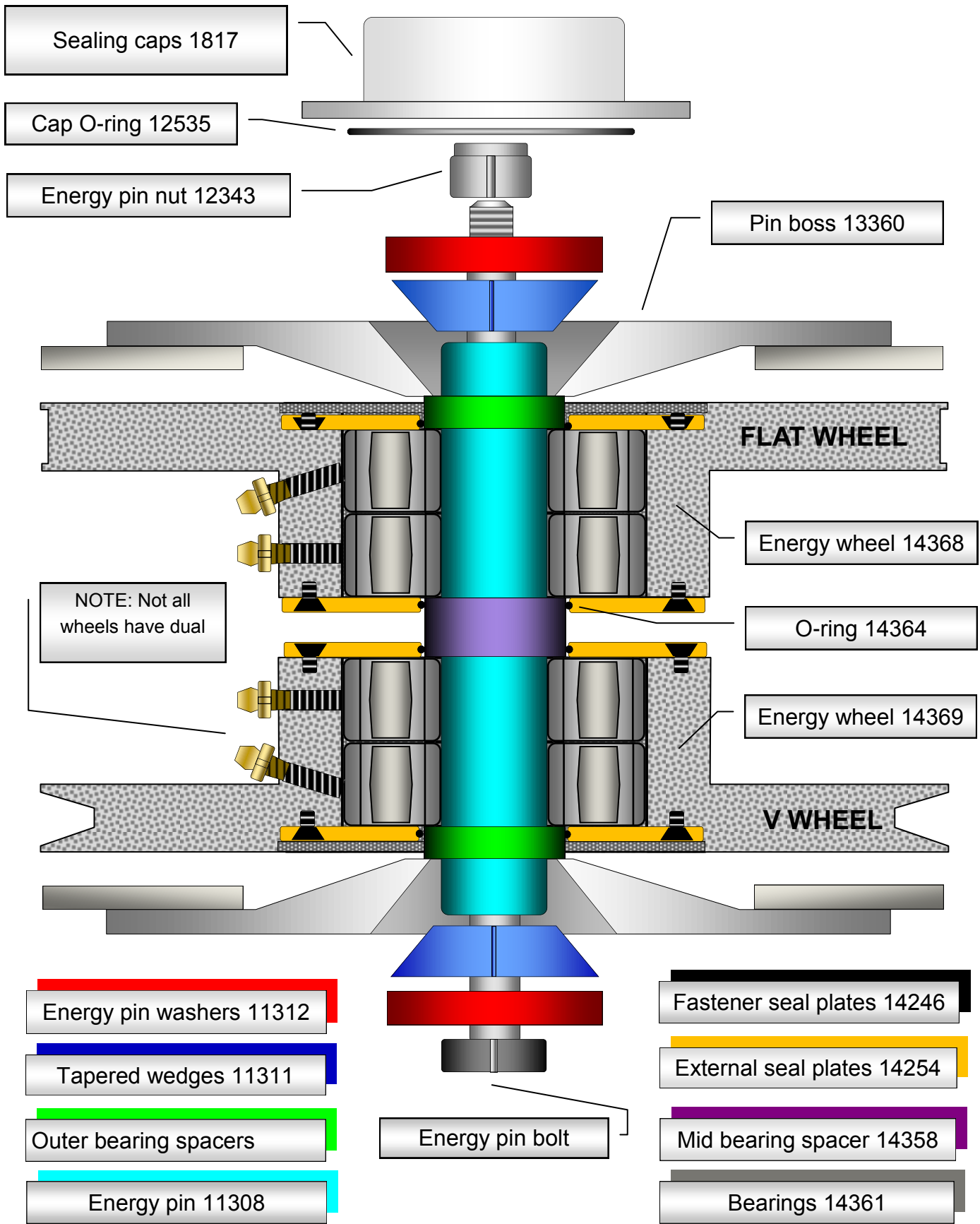
STEP 21

Make sure energy wheels rotate freely without hard spots.

Refer to following page for cross section view of energy wheel assembly & part numbers.

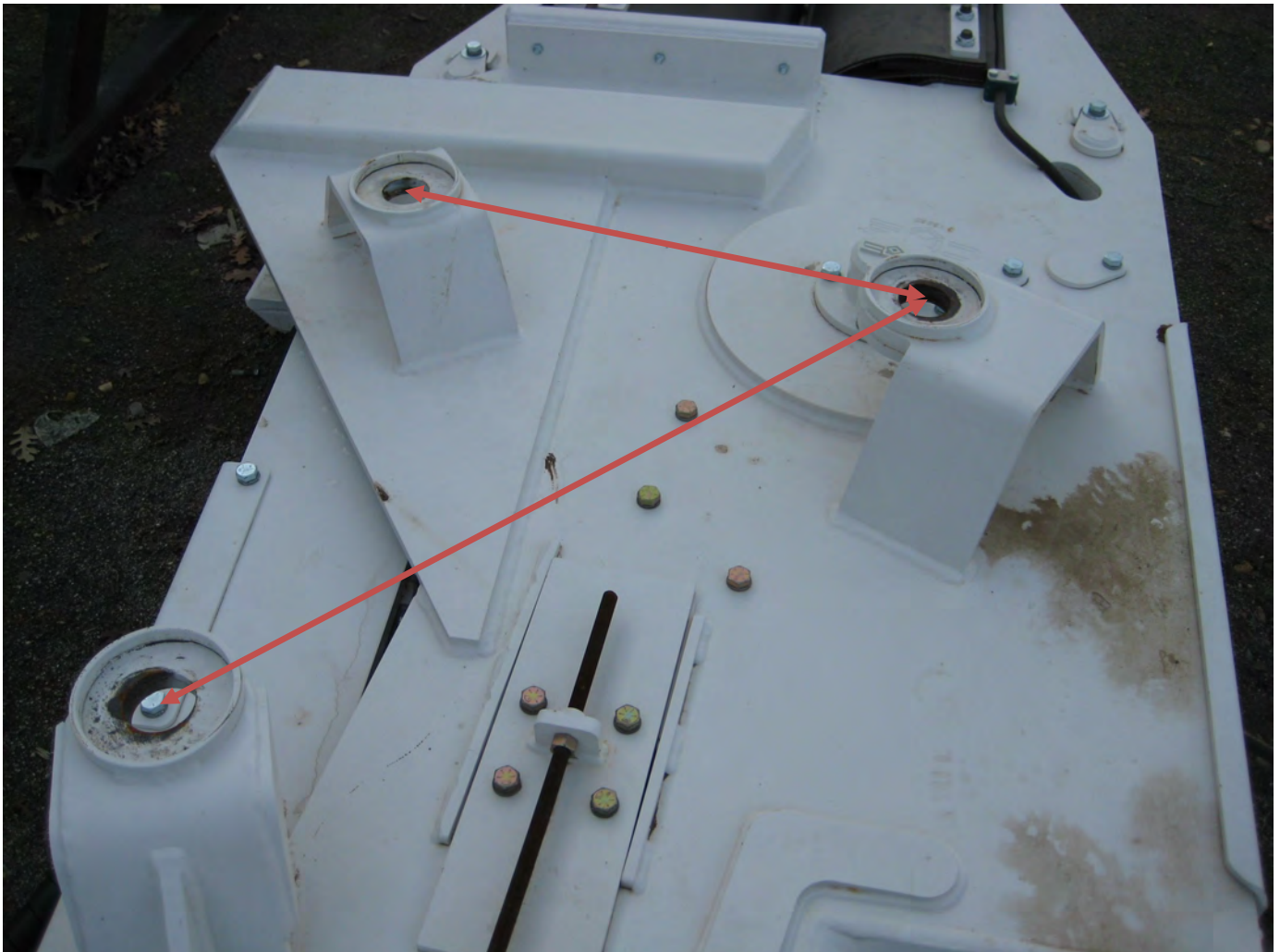


Energy wheel components



Bearing Boss Replacement

STEP 1) For standard TH7 heads take two measurements from the center of the hanger bracket holes as shown below, record measurements to be used when re-installing hanger bracket that is welded to top of bearing boss.



STEP 2) Before removing old bearing boss make reference marks with a center punch three inches from the front edge of the bearing boss and three inches from the side edge, make sure marks are 90 degrees apart as shown below, these reference marks are **ONLY** used when the tapered area of the bottom bearing boss is damaged.

Center punch reference marks three inches from edge



Reference marks need to be 90 degrees apart

STEP 3) To remove **TOP** bearing boss cut the weld off with an oxygen / acetylene torch equipped with a scarfing tip, do **NOT** remove the bottom bearing boss at this time. NOTE: *Take care not to cut into the shaker head case.*

Cut weld off



STEP 4) On standard TH7 Shaker Heads the outer rear hanger bracket will have to be removed. NOTE: *On TH7-X Shaker Heads the hanger bracket will not need to be removed.*

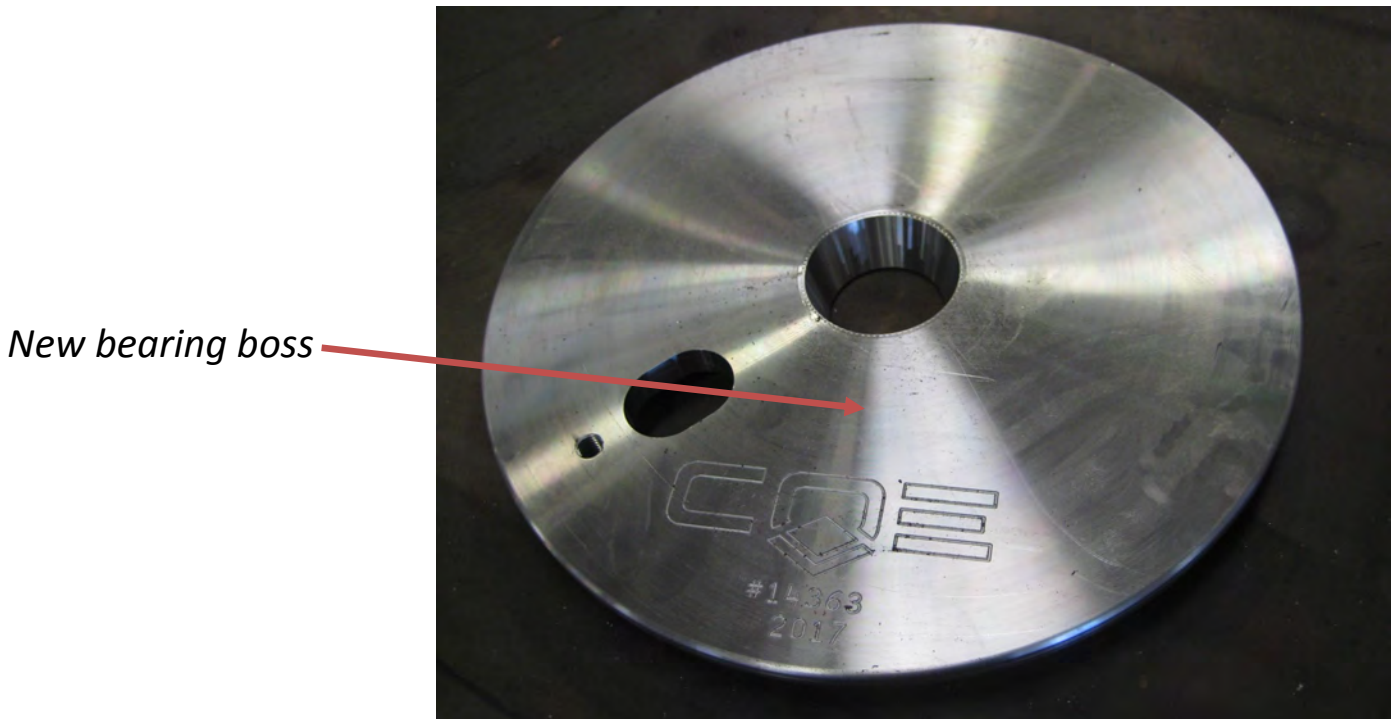
Cut welds off



STEP 5) After removing old bearing boss grind off remaining weld, grind until area is smooth to accept new bearing boss. NOTE: *Do not grind into shaker head case.*



STEP 6) Make sure new bearing boss and shaker head case is clean, and free of dirt and oil.



STEP 7) Inspect flat area of the bottom bearing boss, this area should be smooth, if there is a ridge, file it down so the flat surface of bearing boss is smooth.

Smooth flat surface

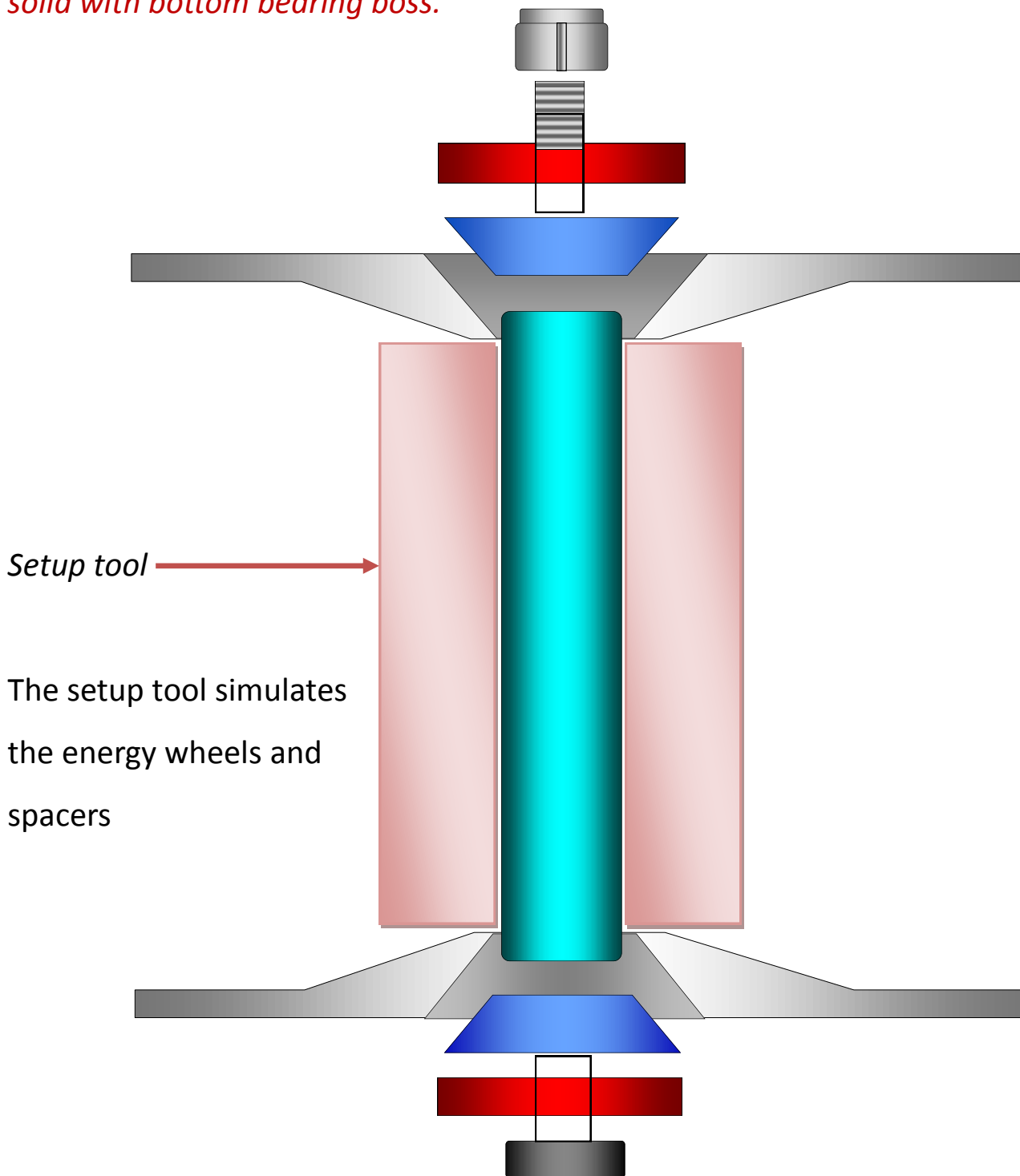


STEP 8) Inspect the tapered area of the bottom bearing boss for any damage, if this area looks good insert the energy pin bolt, washer, and tapered wedge up through bottom bearing boss.

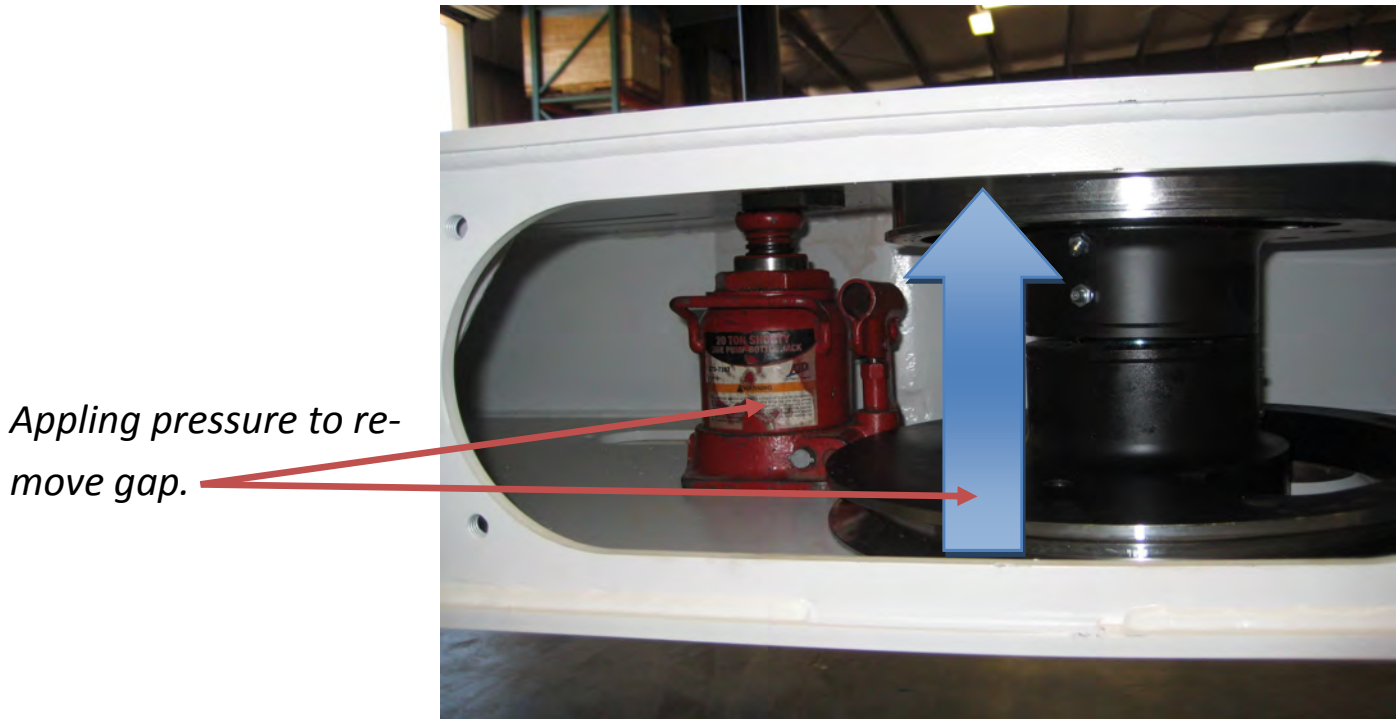


STEP 9) Stack the energy pin, setup tool, top bearing boss, tapered wedge, flat washer, and energy pin bolt nut as shown below. Tighten bolt to secure the stack.

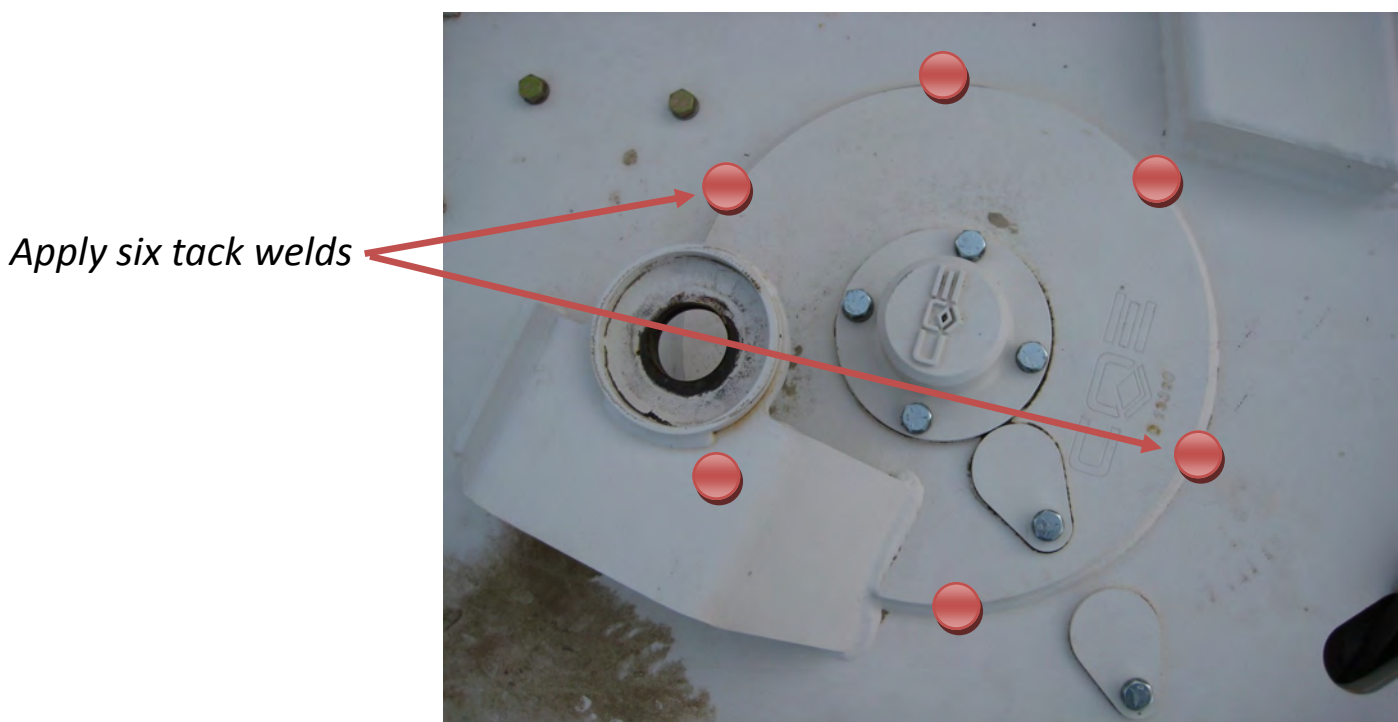
NOTE: *Do not torque the nut to 600 foot pound, tighten nut so stack assembly is solid with bottom bearing boss.*



STEP 10) Inspect for a gap between new top bearing boss and shaker head case, if there is a gap, position a short bottle jack inside case and apply pressure with jack to remove gap, if gap is the same all the way around use two jacks positioned 180 degrees apart and apply pressure evenly to remove the gap.



STEP 11) After gap between bearing boss and case has been removed tack weld bearing boss to case, apply at least six evenly spaced tack welds.



STEP 12) After tack welding top bearing boss in place, turn shaker head over and repeat the process with the bottom bearing boss, with bosses tacked in place finish welding all the way around the bearing boss.

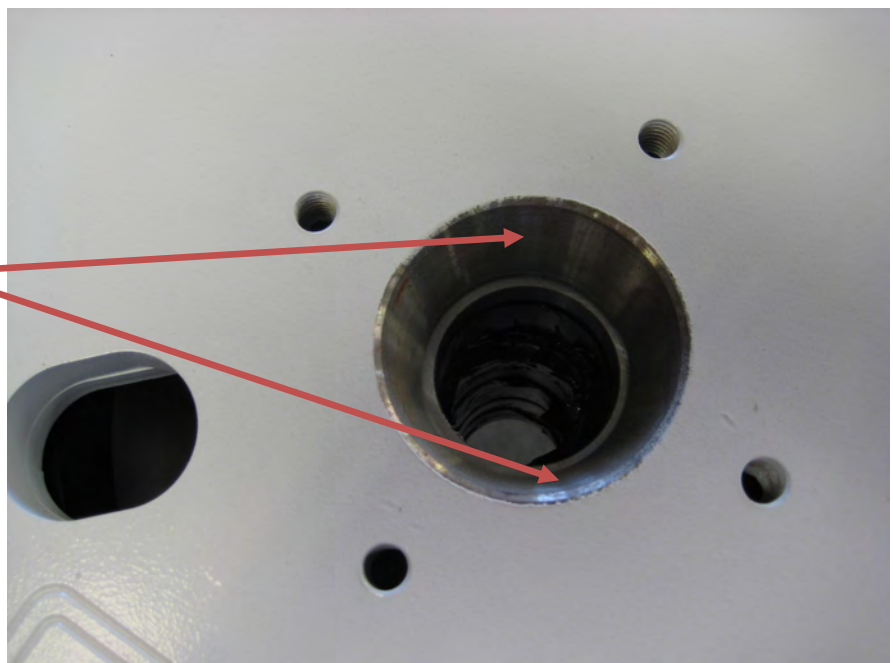
STEP 13) Reattach the hanger bracket using the measurements from step **one** to position bracket in the correct location, weld bracket in place.

Hanger bracket



NOTE: If in step **eight**, the tapered area of bottom bearing boss has been damaged, refer to the reference marks made in step **two**, to properly position top bearing boss prior to tack welding in place.

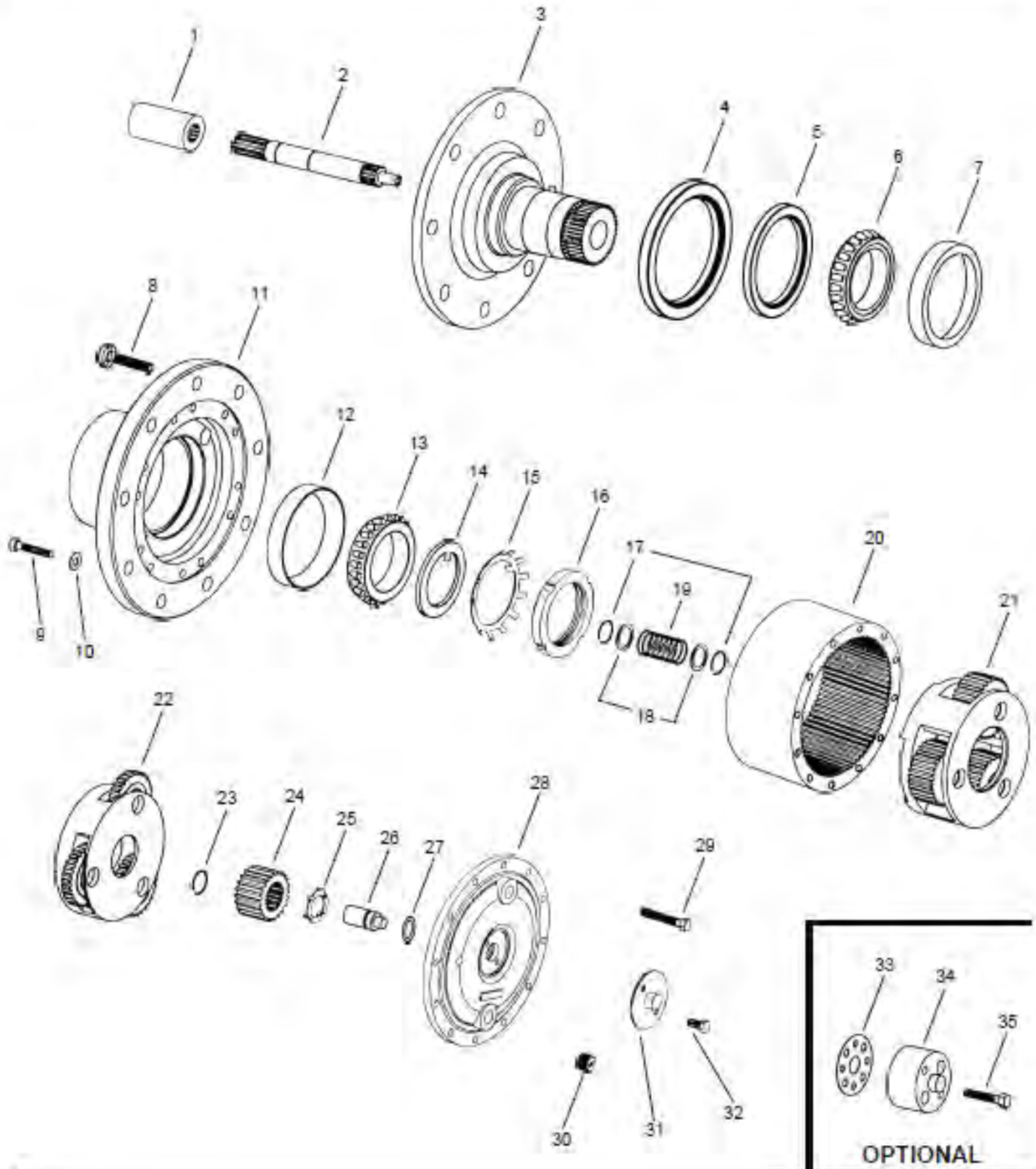
Bottom bearing boss tapered area.



Power Wheel * Service Manual
 Model 6 Series B
 Double Reduction
 Wheel Drives

AuburnGear
 AUBURN, INDIANA 46706-3499
 U.S.A.

PHONE: (260) 925-3200
 FAX: (260) 925-4725



IDENTIFICATION

IMPORTANT: All Power Wheel units and kits are shipped with a nameplate that includes the Auburn Gear part number and order code as shown.

Example:



In addition to the nameplate, Power Wheel drives are stamped with an identification number which appears on the cover or hub flange as shown.

Example: 6000236-A-4-9

When ordering parts, the information included on the nameplate or the stamped identification number is necessary to accurately identify the drive and obtain the correct replacement parts. Once this information has been obtained, contact Auburn Gear for the appropriate parts list.

DISASSEMBLY OF POWER WHEEL

STEP 1

Slide the coupling (1) from splines on input shaft (2).

STEP 2

Position the assembly upright on face of spindle (3).

STEP 3

Remove the disengage cover (31) if necessary.

STEP 4

Remove eight bolts (29) and the large cover (28) from the unit. The thrust washer (25) and the disengage plunger (26) usually remain attached to the large cover (28) when it is removed. Remove thrust washer (25), disengage plunger (26) and "O" ring (27) from the large cover (28).

STEP 5

Remove primary sun gear (24) from end of input shaft (2).

STEP 6

Remove the primary carrier assembly (22).

STEP 7

Remove the secondary carrier assembly (21).

STEP 8

Remove the input shaft (2) from spindle (3). Remove the retaining rings (17), washers (18), and disengage spring (19) from input shaft (2) only if replacement is required.

STEP 9

One tab of lock washer (15) will be engaged in slot of bearing nut (16); bend back to release. Remove the bearing nut (16), lock washer (15) and thrust washer (14). **NOTE:** A special locknut wrench, 596Z, is required for the removal of the bearing locknut. Contact Auburn Gear for procurement of wrench and other service tools.

STEP 10

Bolt spindle drive tool, 598FF, to ring gear (20). Grade 8 bolts should be used. Drive spindle (3) from hub (11) by turning center bolt of spindle drive tool. Care should be taken to avoid damaging splines and threads on spindle. **NOTE:** Bearing cone (13) has been designed with a press fit with respect to spindle (3). Considerable force will be required to remove cone from spindle.

STEP 11

Remove spindle drive tool from ring gear (20).

STEP 12

Remove the 12 bolts (9) and washers (10) from hub (11) and remove ring gear (20). It may be necessary to strike ring gear (20) with a rubber mallet to loosen from hub (11).

STEP 13

Remove the boot seal (4) and oil seal (5) and bearing cones (6 & 13) from hub (11). Inspect bearing cups (7 & 12) in position and remove only if replacement is required.

ASSEMBLY OF POWER WHEEL

STEP 1

Press new bearing cups (7 & 12) in each side of the hub (11). It is recommended that bearing cups (7 & 12) and cones (6 & 13) be replaced in sets.

STEP 2

Assemble bearing cone (6) into cup (7) at seal end of hub (11) and press a new seal (5) into hub (11). Install boot seal (4) on hub (11) if unit is so equipped.

STEP 3

Position spindle (3) upright on bench. Lubricate lips of seal (5) and lower hub (11) onto spindle (3). Hub (11) should be centered as it is lowered over spindle (3) to prevent seal damage.

STEP 4

Assemble bearing cone (13) over spindle (3). Press bearing cone (13) over spindle bearing journal using press and cylindrical bearing cone driver 598E. Press bearing cone (13) down until rollers just touch cup (12). Take care to avoid pressing cone (13) too far. **NOTE:** If a press is not available, place tool 598E over splined end of spindle (3) on the edge of bearing cone (13) and drive into place with hammer or mallet. If this method is used, care must be taken to avoid damage to bearing cone and spindle.

STEP 5

Install thrust washer (14) with tab in keyway of spindle and bearing nut (16). **DO NOT** install lock washer (15) at this time.

STEP 6

Clean mating surfaces and apply a bead of silicone sealant to face of hub (11) that mates with ring gear (20). See instructions on sealant package. Hub (11) is attached to ring gear (20) with 12 3/8-24 grade 8 hex head cap screws (9) and flat washers (10). Torque cap screws to 52 - 60 lb.-ft. (70 - 61 Nm).

STEP 7

Place spindle drive tool, 598FF, over spindle (3) and bolt or pin to ring gear (20). Make sure center bolt of drive tool is not touching spindle and is prevented from rotating by jam nuts provided on tool.

STEP 8

Check initial rolling torque by installing a lb.-in. torque wrench (arm or dial type) on center nut of spindle drive tool and turning hub (11) slowly and steadily with the torque wrench. Note mean torque. An initial bearing torque of greater than 52 lb.-in. with boot seal installed or 46 lb.-in. without boot seal means that the cone (13) was pressed on too tightly in step 4. In this case, back off bearing cone (13) by pressing spindle (3) out of cone (13) until initial preload is relieved. See step 10 of disassembly procedure.

STEP 9

Torque bearing nut (16) with bearing nut wrench 595Z until a bearing rolling torque of 42 - 50 lb.-in., with a boot seal installed, or 38 - 46 lb.-in., without a boot seal, is reached. This may require several trials of pressing the cone (13) by torquing the nut (16) and then checking the rolling torque. Rotate hub (11) by hand as nut is being tightened in order to seat bearings. **NOTE:** Up to 250 lb.-ft. of torque may have to be applied to bearing nut (16) in order to press cone (13) into position.

STEP 10

Remove bearing nut (16) and install lock washer (15). Replace bearing nut (16).

STEP 11

Re-torque bearing nut (16) to 60 - 70 lb.-ft. (80 - 94 Nm).

STEP 12

Secure bearing nut (16) by bending a lock washer (15) tab into one of four bearing nut slots. If no tab aligns with a slot, the nut may be tightened until one of the slots aligns with a lock washer tab.

STEP 13

Assemble a washer (18), spring (19), a second washer (18), and a retaining ring (17) in the middle grooves of input shaft (2). Install a second retaining ring (17) in groove near small end of input shaft (2).

STEP 14

Assemble the splined end of the input shaft (2) closest to the disconnect spring down into spindle (3).

STEP 15

Assemble the secondary carrier assembly (21) to spindle (3) at splines.

NOTE: When installing a hydraulic motor to the Power Wheel drive it is necessary to place an "O" ring or gasket (not supplied by Auburn Gear) between the motor and the planetary drive. "O" ring sizes: SAE A 2-042, SAE B 2-155, SAE C 2-159.

STEP 16

Assemble the primary carrier assembly (22) into the ring gear (20). It will be necessary to rotate carrier to align secondary sun gear (part of primary carrier assembly (22)) with planet gear teeth in secondary carrier assembly (21). Assemble primary sun gear (24) over input shaft (2). Rotate primary sun gear (24) to align input shaft (2) to gear splines and gear teeth in primary carrier assembly (22).

STEP 17

Lubricate "O" ring (27) and assemble in groove inside cover hole, push disengage plunger (26) into cover (28) with pointed end facing inside of unit.

STEP 18

Assemble the thrust washer (25) with tangs engaged with cover (28). **NOTE:** A small amount of grease applied to the back side of thrust washer (25) will hold washer in place. Apply a bead of silicone sealant to end of face of ring gear (20). Assemble cover (28) aligning holes of cover and ring gear. Assemble the eight 5/16-18 x 1 inch hex head bolts (29). Torque bolts to 20 - 25 lb.-ft. (27 - 34 Nm).

STEP 19

Assemble the disengage cover (31) with dimpled center protruding out if wheel is to be used to drive the vehicle. Assemble and torque the two 5/16-18 x 1/2 inch bolts (32). Torque bolts to 10 - 20 lb.-ft. (13 - 27 Nm).

STEP 20

Invert the Power Wheel assembly and assemble the coupling (1), with counterbore out, to the input shaft (2).

STEP 21

After motor is assembled to drive or drive is sealed at spindle, fill with lubricant to proper level and replace all plugs.

CARRIER ASSEMBLIES

It is recommended that the primary and secondary carrier assemblies (21 & 22) be serviced in their entirety to protect the integrity of the Power Wheel drive.

LUBRICATION RECOMMENDATIONS

IMPORTANT: POWER WHEEL PLANETARY DRIVES ARE SHIPPED WITHOUT LUBRICANT AND MUST BE FILLED TO THE PROPER LEVEL PRIOR TO START UP.

Observe lubrication recommendations given by the original equipment manufacturer. When specific recommendations are not available, use mild extreme pressure lubricant API-GL-5, No. 80 or 90 when filling the Power Wheel under normal temperature ranges between 0 - 120°F (-18 to 49°C). Power Wheel is to be half full of oil when unit is mounted level and horizontal. Use drain and fill plugs located in cover and ring gear. Oil is to be changed after first 50 hours of operation with subsequent changes every 1000 hours or yearly, whichever comes first. If unit is to be operated vertically, if ambient conditions are outside the specified range, or if the oil temperature exceeds 200°F (93°C) contact Auburn Gear for oil and level recommendations.

TOWING VEHICLE

CAUTION: The Power Wheel will not normally be damaged by towing; however, the hydraulic drive components may be damaged unless the Power Wheel is disengaged from the drive motor. Road speeds in excess of 25 MPH should be avoided unless clearly specified to be permissible by the equipment manufacturer.

TO DISENGAGE POWER WHEEL

CAUTION: For units equipped with the standard spring disconnect, assemble the disengage cover (31) with the dimpled center protruding inward. For units equipped with the optional quick disconnect, push in center plunger of disconnect.

STORAGE

A protective film is applied to the Power Wheel at the factory to prevent rust during shipment. Additional protection may be required if the Power Wheel is to be stored for an extended period of time.

SEALING COMPOUND

Silastic RTV732 sealer and General Electric Sillmate RTV No. 1473 or RTV No. 1503 are currently recommended for sealing gasket surfaces. Sealant should be applied in a continuous bead, which should be centered on the surface to be sealed but should move to the inside of the hole at each bolt hole location. For service requirements order Auburn Gear part number 604101.

SPECIFICATIONS

Maximum intermittent output torque.....	50,000 lb. In. (5,650 Nm)
Maximum input speed	5,000 RPM
Oil capacity	31 oz (920 ml)

ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.	ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.
1	Coupling	1	19	Disengage Spring 14-02-156-001	1
2	Input Shaft	1	20	Ring Gear	1
3	Spindle	1	21	Secondary Carrier Assembly	1
4	Boot Seal 604405	1	22	Primary Carrier Assembly	1
5	Oil Seal 604415	1	23	Retaining Ring	1
6	Bearing Cone 613317	1	24	Primary Sun Gear	1
7	Bearing Cup 613316	1	25	Thrust Washer	1
8	Wheel Bolt	9	26	Disengage Plunger 610801	1
9	Hex Head Bolt (Grade 8)	12	27	"O" Ring 614101	1
10	Flat Washer	12	28	Large Cover	1
11	Hub	1	29	Hex Head Bolt	8
12	Bearing Cup 613318	1	30	Magnetic Plug 14-00-052-002	1
13	Bearing Cone 613319	1	31	Disengage Cover 14-02-039-005	1
14	Thrust Washer 619321	1	32	Hex Head Bolt 618305	2
15	Lock Washer 605004	1	33	Quick Disconnect Gasket	1
16	Bearing Nut 614913	1	34	Quick Disconnect Assembly	1
17	Retaining Ring	2	35	Hex Head Bolt	2
18	Washer	2			

* Contact Auburn Gear with part number and order code of drive to obtain the appropriate parts list. Refer to parts list for the specific part numbers and quantities.

Model 6 Series B Power Wheel® Service Kits

Part No.	Description	Included Items
641023**	Bearing and Seal Kit	5, 6, 7, 12, 13, 15, and 27
641024**	Seal Kit	5, 15, and 27
596Z	Bearing Locknut Tool	Not Shown
598E	Bearing Cone Driver	Not Shown
598FF	Spindle/Shaft Drive Tool	Not Shown

** Indicates kit also includes a tube of sealant, part number 604101.



BRAKE NUMBER 84908 SERVICE NOTES

ECO 22581 REV A

THE MULTI DISC BRAKE WITH SERVICE IS A SPRING APPLIED BRAKE, WITH AN INDEPENDENT SERVICE FEATURE. HYDRAULIC PRESSURE IS REQUIRED TO RELEASE OR "HOLD OFF" THE BRAKE. NORMAL OPERATION IS TO HAVE THE BRAKE PRESSURIZED IN THE RELEASED POSITION WITH THE VEHICLE HYDRAULIC SYSTEM RUNNING. ANY FUNCTION WHICH REDUCES THE HYDRAULIC SYSTEM PRESSURE BELOW THE RELEASE PRESSURE OF THE BRAKE WILL CAUSE THE BRAKE TO BE APPLIED. IN ADDITION, THE BRAKE MAY BE APPLIED VIA SEPERATE HYDRAULIC SYSTEM CONNECTED TO THE SERVICE BRAKE INLET. PRESSURE IN THIS CIRCUIT WILL APPLY THE BRAKE, AND THE BRAKE TORQUE WILL BE DIRECTLY PROPORTIONAL TO THE AMOUNT OF PRESSURE APPLIED. THE FAILSAFE PORTION OF THE BRAKE WILL NOT BE AFFECTED.

INSTALLATION INFORMATION:

1. PLACE THE GASKET ONTO THE MOUNTING FACE OF THE BRAKE.
2. PLACE THE BRAKE INTO THE GEAR REDUCER WITH BLEEDER SCREW IN THE VERTICAL POSITION IF POSSIBLE.
3. MOVE THE BRAKE INTO POSITION WITH THE GEAR REDUCER MAINTAINING PROPER GASKET LOCATION. ALIGN THE MOUNTING BOLT HOLES BY ROTATING THE ENGAGED BRAKE INTO POSITION. IF THIS IS NOT POSSIBLE, THE BRAKE MAY BE ROTATED AFTER PRESSURE HAS BEEN APPLIED TO THE BRAKE INLET. THIS WILL RELEASE THE BRAKE AND ALLOW IT TO BE ROTATED INTO POSITION.
4. SIMILARLY, PLACE THE GASKET ONTO THE FLANGE OF THE MOTOR.
5. INSERT THE SHAFT OF THE MOTOR INTO THE BRAKE AND PUSH INTO POSITION MAINTAINING PROPER GASKET LOCATION.
6. INSERT TWO 1/2 INCH DIAMETER BOLTS (GRADE 5) THROUGH THE BRAKE AND GASKET INTO THE GEAR REDUCER MOUNTING FLANGE, OR INTO THE THREADED HOLES IN THE GEAR REDUCER MOUNTING FLANGE.
7. TO PREVENT BINDING, RUN THE BOLTS IN ALTERNATELY UNTIL SNUG. THEN TORQUE THE BOLTS TO 75-85 FT-LBS. NOTE: BOTH SHAFTS MUST SLIDE TOGETHER FREELY, DO NOT USE THE BOLTS TO FORCE THE UNIT TOGETHER.
8. WITH MOTOR AND BRAKE BOLTED INTO POSITION, CONNECT INLET HYDRAULIC LINES TO HOUSING AND POWER PLATE (IF NOT ALREADY DONE IN 3). BRAKE INLET IS 0.250 O.D. TUBING. STRAIGHT THREAD O-RING BOSS 7/16-20 UNF 2B THD.

BRAKE DISASSEMBLY INFORMATION:

1. WITH SHAFT PROTRUSION DOWNWARD, DISASSEMBLE IN THE FOLLOWING ORDER:
BOLTS ALTERNATELY (USE EXTREME CAUTION-SPRINGS WILL CAUSE POWER PLATE ASSEMBLY TO POP OFF HOUSING AS SOON AS BOLTS ARE RELEASED). POWER PLATE ASSEMBLY, SPRINGS, O-RING, STATIONARY DISCS, ROTATING DISCS, PRIMARY DISC, SECONDARY DISC PINS, AND SPRINGS.
2. FURTHER DISASSEMBLY IS NOT RECOMMENDED AND SHOULD NOT BE ATTEMPTED UNLESS NECESSARY TO REPLACE THE BEARING, THE SEAL, OR THE SHAFT.
NOTE: IF THE BEARING AND SEAL ARE REMOVED FOR ANY REASON, BOTH MUST BE REPLACED.
 - 2a. REMOVE SNAP RINGS AS NEEDED.
 - 2b. SEAL CAN BE REMOVED BY PRYING IT OUT WITH AN APPROPRIATE TOOL. TAKE CARE NOT TO DAMAGE THE BORE.
 - 2c. SHAFT CAN BE REMOVED BY PRESSING IT OUT WITH A SHOP PRESS.
3. REMOVE PISTONS FROM HOUSING BY INTRODUCING LOW PRESSURE AIR TO THE HYDRAULIC INLET. MAKE SURE THE PISTONS ARE DIRECTED AWAY FROM THE OPERATOR. REMOVE O-RINGS.
4. REMOVE THE PISTON FROM THE POWER PLATE BY INTRODUCING LOW PRESSURE AIR (15 psi) INTO THE HYDRULIC INLET. MAKE SURE THE PISTON IS DIRECTED AWAY FROM THE OPERATOR. REMOVE O-RINGS AND BACKUP RINGS FROM THE O.D. AND I.D. GROOVES OF THE PISTON. BACKUP RINGS WILL BE DAMAGED AND SHOULD NOT BE REMOVED IF REPLACEMENT IS NOT PLANNED. REMOVE SNAP RING AND BEARING MAY BE REMOVED BY TAPPING LIGHTLY WITH A PLASTIC Mallet.

ASSEMBLY INFORMATION:

IMPORTANT: THERE MAY BE MORE PARTS IN A SERVICE KIT THAN YOUR BRAKE REQUIRES. CHECK THE PARTS LIST CAREFULLY FOR THE EXACT QUANTITY.

USE THE REVERSE OF THE DISASSEMBLY PROCEDURE WITH THE FOLLOWING NOTES AND ADDITIONS:

1. WORN AND DAMAGED O-RINGS OR WORN BACKUP RINGS MUST BE REPLACED PRIOR TO REASSEMBLY.
2. CYLINDER OF THE POWERPLATE, PISTON, AND O-RINGS MUST BE PRE-LUBED WITH SYSTEM HYDRAULIC FLUID PRIOR TO REASSEMBLY.
3. PISTON ASSEMBLY:
ASSEMBLE PISTON INTO POWER PLATE USING A SHOP PRESS. TAKE CARE NOT TO DAMAGE THE O-RING OR TEFLON BACKUP RINGS. VISUALLY ALIGN THE CENTER OF THE CUTOUTS IN THE PISTON WITH THE TORQUE PIN HOLES IN THE POWER PLATE.
CAUTION: THE DEPTH THE PISTON IS INSTALLED INTO THE POWER PLATE IS CRITICAL. THE SURFACE OF THE PISTON AT THE CUTOUTS MUST BE FLUSH TO 0.120 BELOW THE SURFACE OF THE POWER PLATE OR PISTON WILL COCK RESULTING IN A COMPLETE LOSS OF BRAKING.
4. BEARING ASSEMBLY:
USE A SHOP PRESS TO PRESS THE BEARING ONTO THE SHAFT. PRESS ONLY ON THE INNER RACE OF BEARING. BEARING IS A SLIP FIT TO THE HOUSING.
5. LIP SEAL ASSEMBLY:
LIP OF SEAL MUST FACE AWAY FROM THE BEARING. SEE CUTAWAY VIEW FOR SEAL ORIENTATION DETAIL.
6. ROTATING, STATIONARY, AND PRIMARY DISC ASSEMBLY:
ROTATING DISC MUST BE CLEAN. THE LINING MATERIAL AND MATING SURFACES OF THE STATIONARY DISCS MUST BE THOROUGHLY CLEAN AND FREE FROM DEBRIS. WORN OR SCARRED ROTATING DISCS MUST BE REPLACED.
7. INSTALL BOLTS IN THE POWER PLATE. TIGHTEN SEQUENTIALLY ONE TURN AT A TIME UNTIL POWER PLATE IS PROPERLY SEATED. TORQUE BOLTS TO 80-90 FT-LBS.

SERVICE KIT INFORMATION:

- BEARING KIT: PK-1650 - INCLUDES SEALS, RETAINING RINGS, AND BEARINGS.
- STACK KIT: PK-1538 - INCLUDES TORQUE PINS, PRIMARY, STATIONARY, ROTATING DISCS, COMPRESSION SPRINGS.
- O-RING KIT: PK-1409 - INCLUDES O-RINGS, BACKUP RINGS, AND INTERNAL GASKET.
- GASKET KIT: PK-1231 - INCLUDES EXTERIOR GASKET(S).

REF: GENERAL ASSEMBLY VIEW 8005

PRO/E

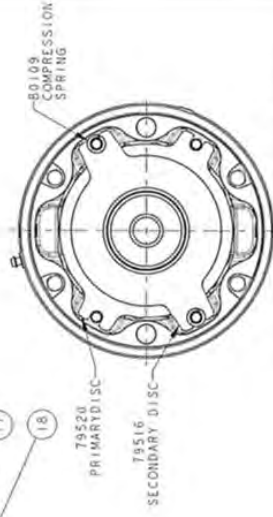
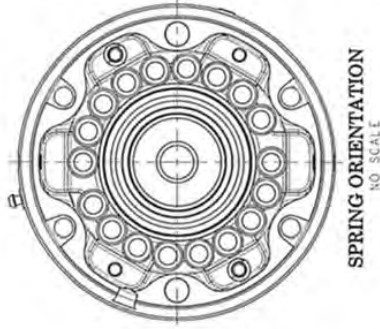
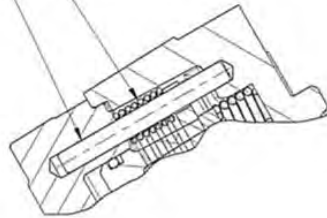
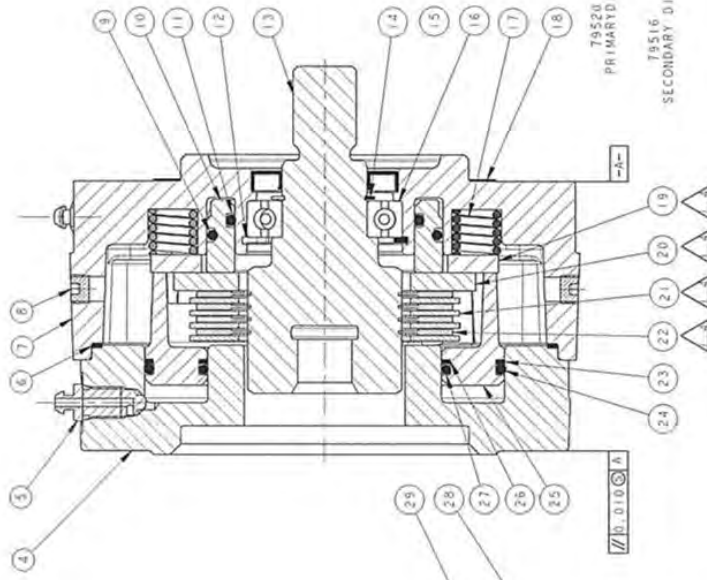
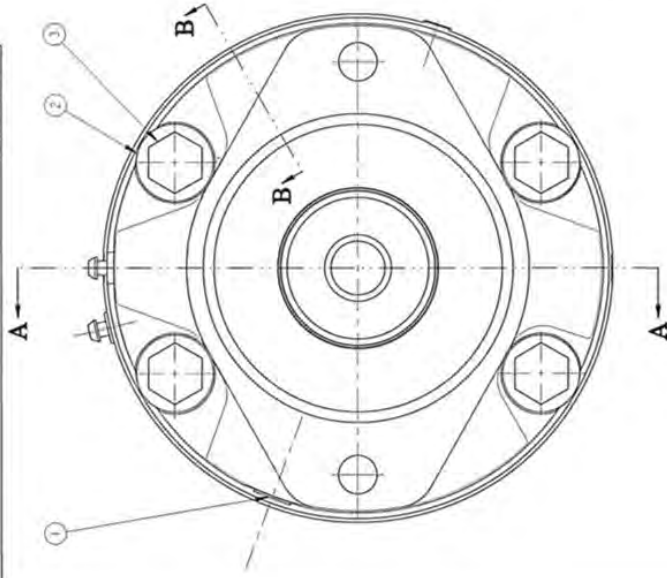


BRAKE NO. 84908 PARTS LIST

ECO 22581 REV A

ITEM	PART	DESCRIPTION	QTY
1	28435	PROTECTIVE PLUG	2
2	74877	WASHER	4
3	73594	HEX HEAD BOLT	4
4	79519	POWER PLATE	1
5	29035	BLEEDER	2
6	73741	GASKET	1
7	82337	HOUSING	1
8	75395	TAPERED PLUG	3
9	79521	O-RING	1
10	82170	SERVICE PISTON	1
11	78585	O-RING	1
12	30988	RETAINING RING	1
13	82201	SPLINE SHAFT	1
14	30986	RETAINING RING	1
15	85119	OIL SEAL	1
16	32347	BEARING BALL	1
17	80174	COMPRESSION SPRING	18
18	28426	GASKET	2
19	79520	PRIMARY DISC	1
20	79516	SECONDARY DISC	1
21	74552	STATIONARY DISC	4
22	74771	ROTATING DISC	4
23	27966	BACKUP RING	1
24	27777	O-RING	1
25	80100	PISTON	1
26	27967	BACKUP RING	1
27	27808	O-RING	1
28	80109	COMPRESSION SPRING	2
29	80102	TORQUE PIN	4

Ausco BRAKE NO. 84908 CUTAWAY VIEW
ECO 22351 REV. A



SECTION A-A

SECTION B-B

PLAN VIEW OF PRIMARY DISCS
NO. SCALE

SPRING ORIENTATION
NO. SCALE

80109
COMPRESSION
SPRING

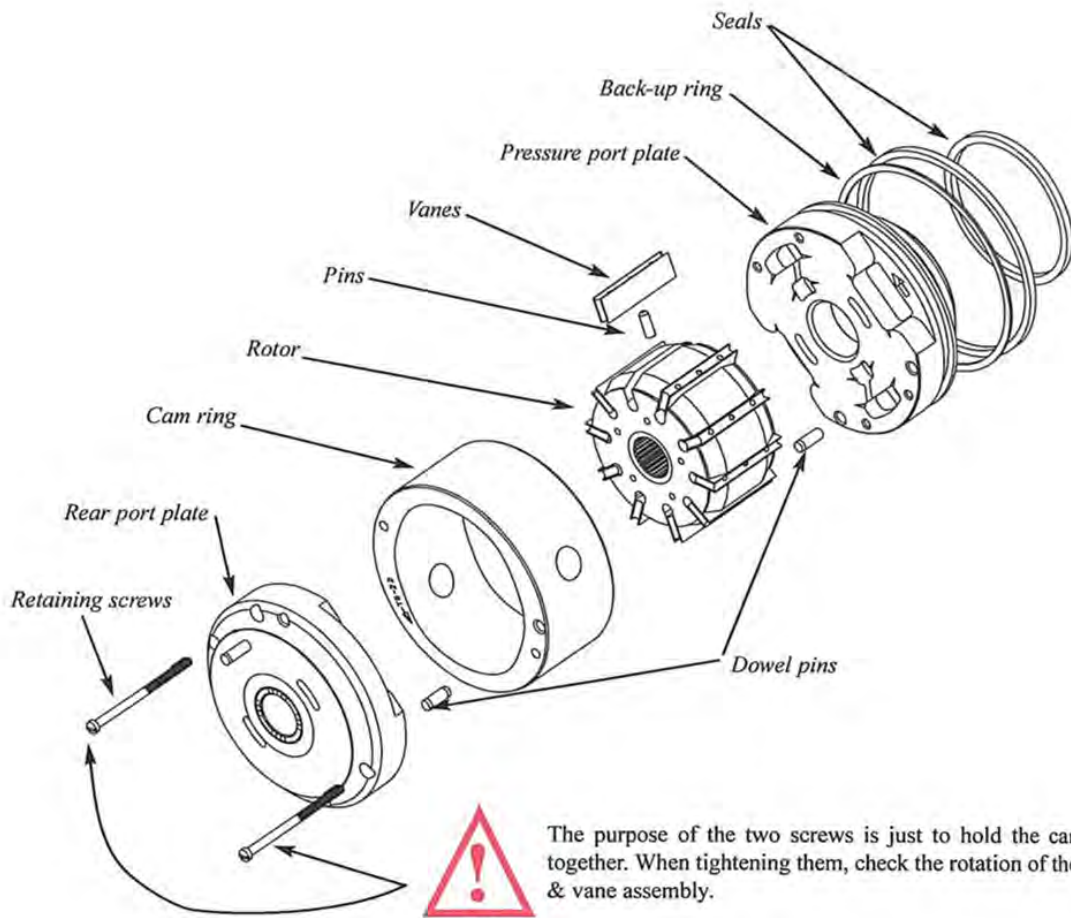
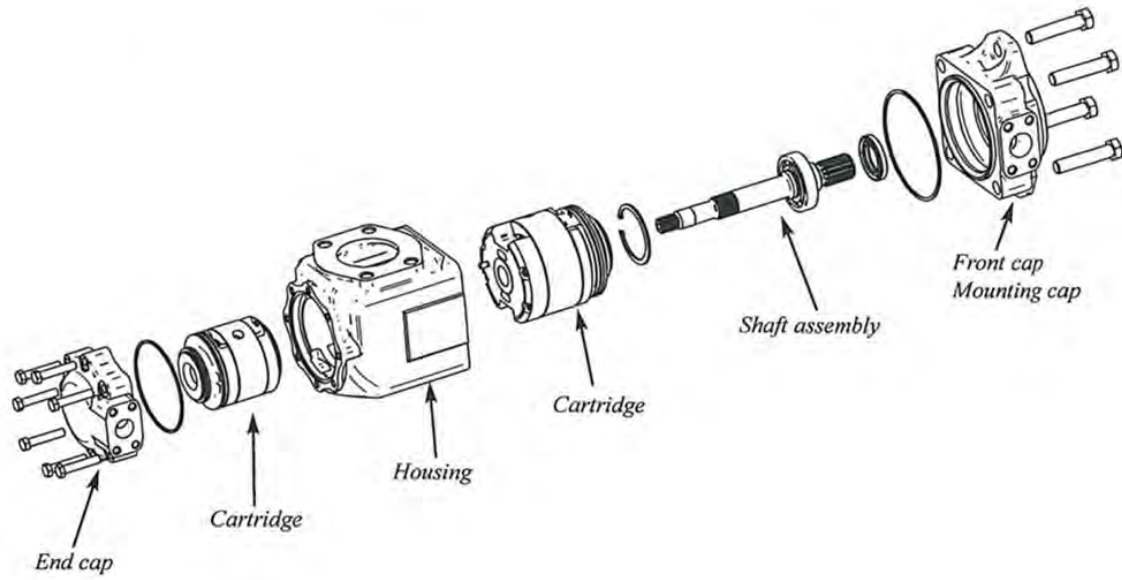
T9520
PRIMARY DISC

T9516
SECONDARY DISC

0.010 A

A-A

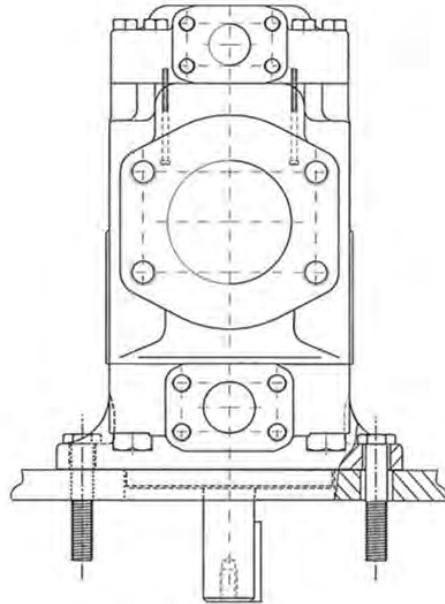
2. PUMP & CARTRIDGE BREAKDOWN DRAWING



3. CONVERSIONS

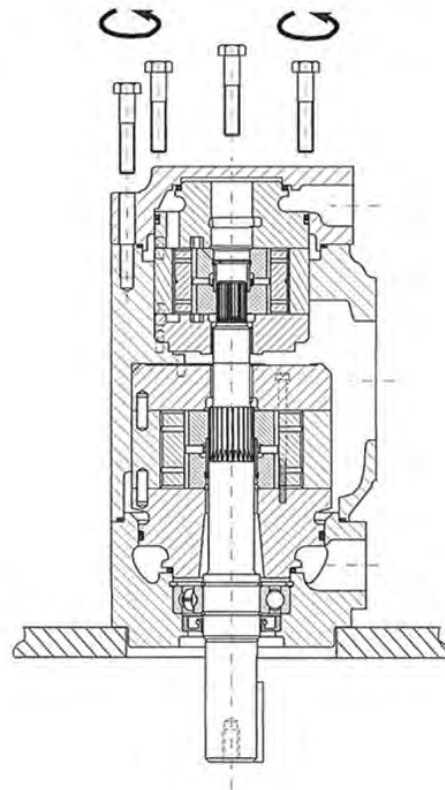
3.1. COMPLETE DISASSEMBLY OF THE PUMP :

1. Install the pump on the table.



Two bolts will help to unscrew the 4 pump bolts.

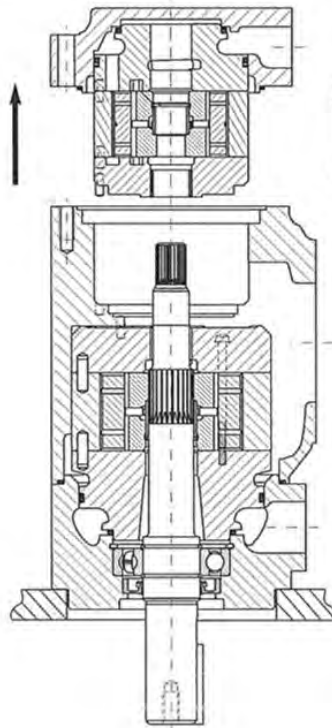
2. Unscrew the bolts.



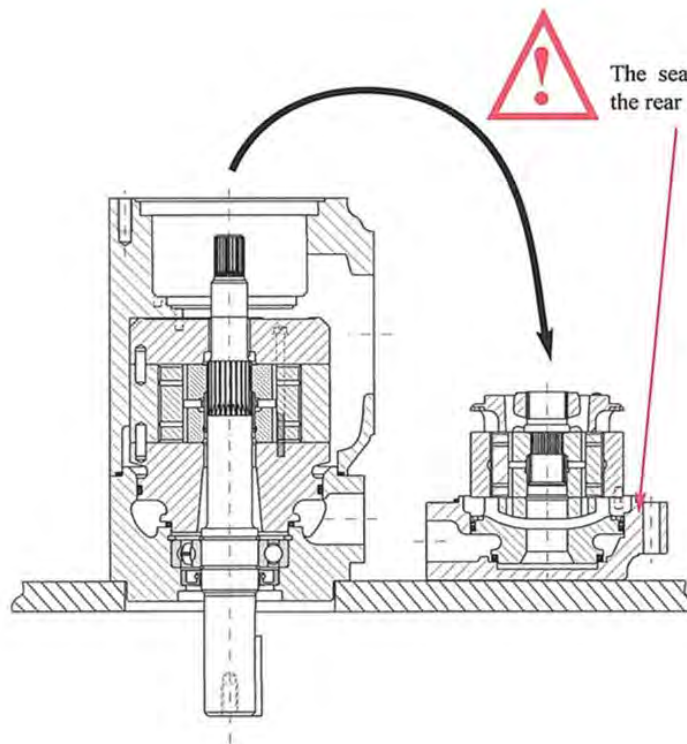
3. CONVERSIONS

3.1. COMPLETE DISASSEMBLY OF THE PUMP :

3. Remove the end cap
(P2 cartridge will come
with it).



Cartridge : be careful as
some items could fall if the
retaining cartridge bolts
are totally loose or broken.

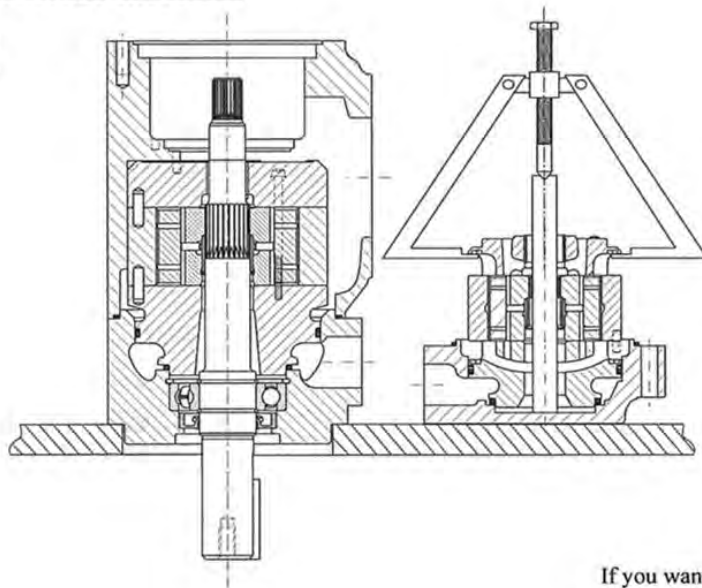


The seal usually stays in
the rear cap.

3. CONVERSIONS

3.1. COMPLETE DISASSEMBLY OF THE PUMP :

4 . Disassemble the P2 cartridge / end cap with an extractor.



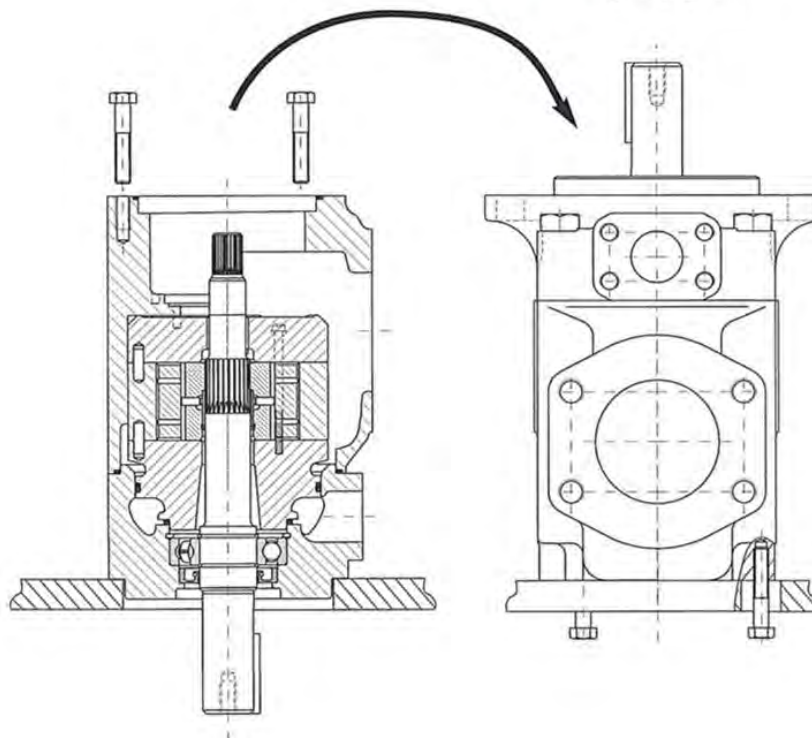
If you want to continue the pump disassembly (P2 & shaft), go to next page.



If you want to reassemble the P2 cartridge, go to page 17.

5 . Put two screws in the housing and flip the pump (housing + P1 assy).

If you want to convert P2, go to page 13.



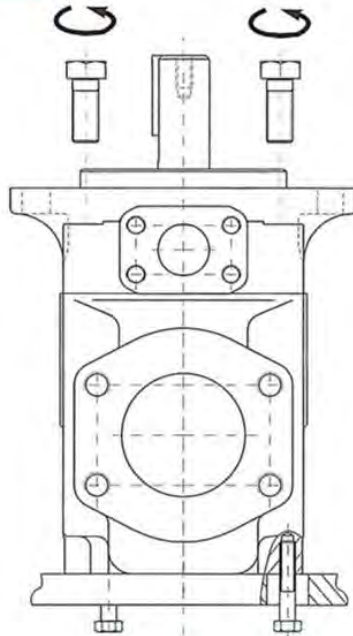
3. CONVERSIONS

3.1. COMPLETE DISASSEMBLY OF THE PUMP :

6. Remove the bolts.

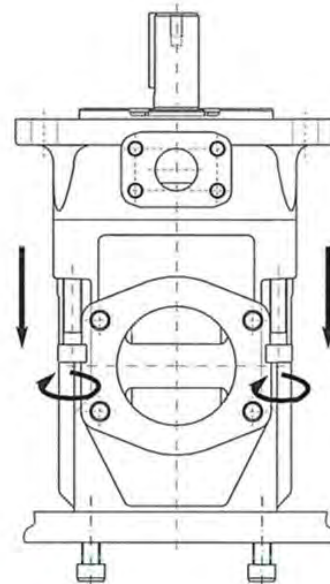


For all pumps except :
T6EES / T7EES - T6DDS / T7DDS



For pumps :

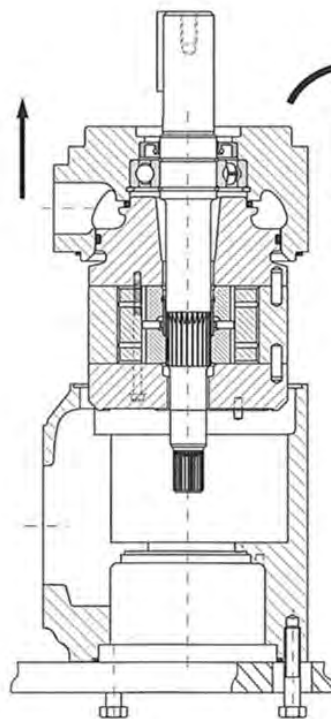
T6EES / T7EES - T6DDS / T7DDS



7. Remove the front cap.



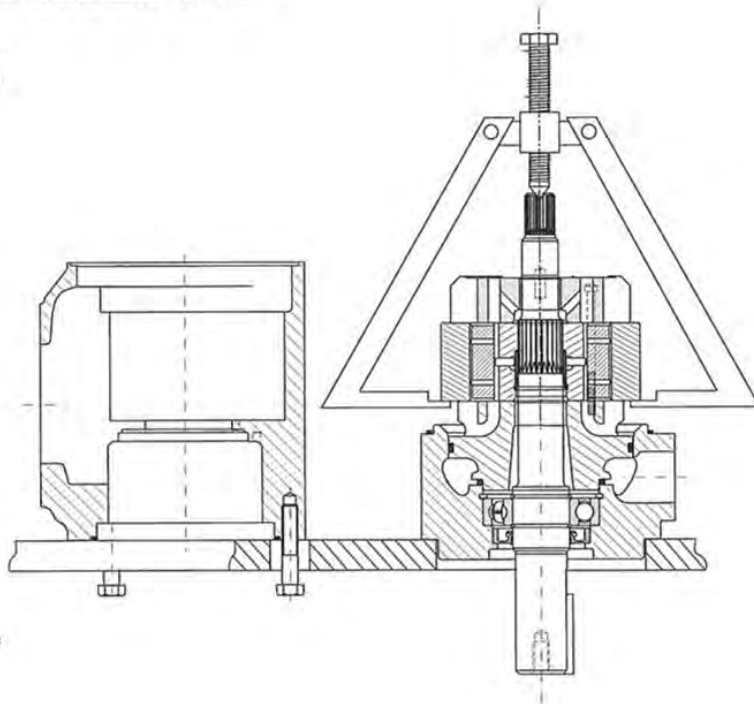
PI cartridge will come
with the front cap / shaft
assembly.



3. CONVERSIONS

3.1. COMPLETE DISASSEMBLY OF THE PUMP :

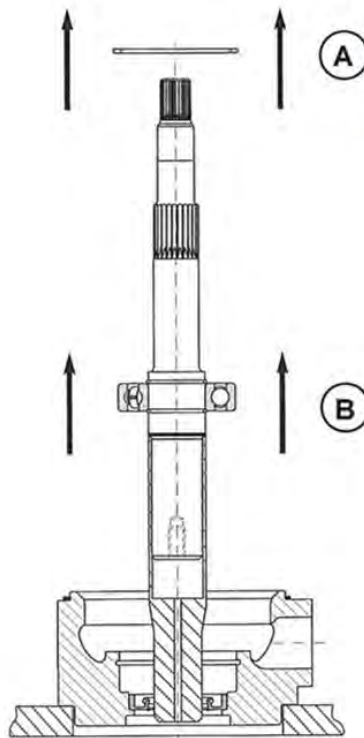
8. Disassemble the P1 cartridge / front cap with an extractor.



If you wish to convert the cartridge, go to page 13.

A: Remove the retaining ring.

B: Extract the shaft / bearing assembly.



Take a protection cone to prevent seal damage (dim. page 30).
If you don't, change the shaft seal.

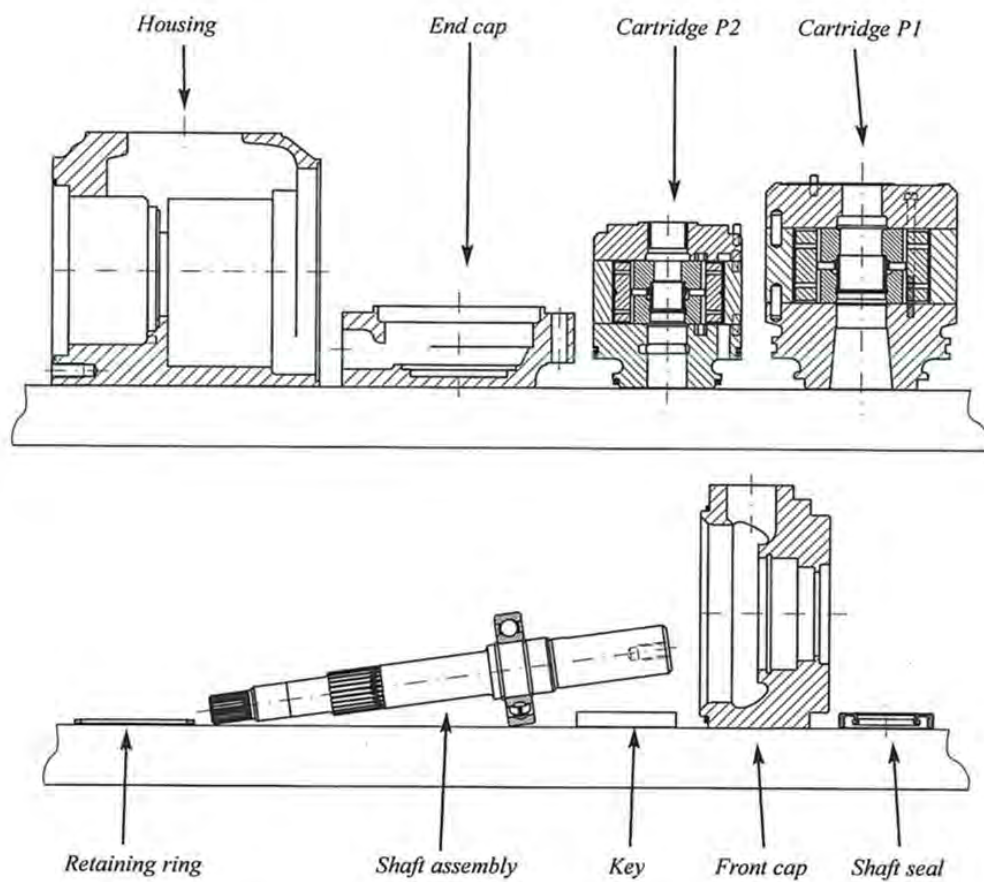
If not new, the shaft seal should be replaced.

If the shaft \varnothing is bigger than the shaft seal \varnothing , please contact DENISON (TPI).

3. CONVERSIONS

3.1. COMPLETE DISASSEMBLY OF THE PUMP :

9. Shaft seal out



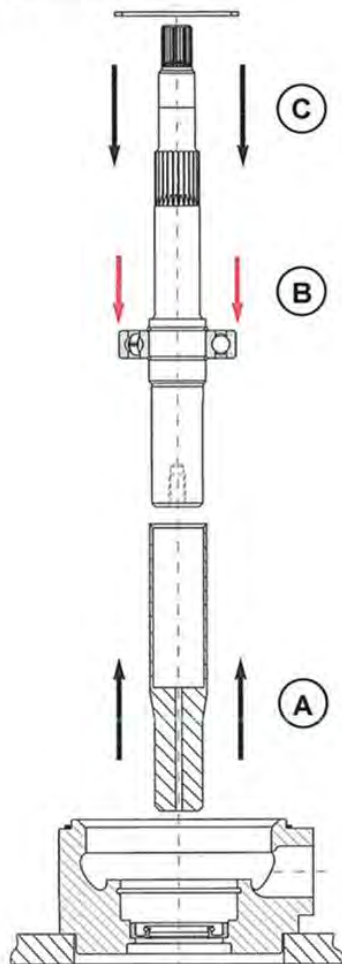
3. CONVERSIONS

3.3. COMPLETE REASSEMBLY OF THE PUMP :

A : Protective cone on the shaft assembly (dimensions per shaft in page 30).

B : Shaft assembly + protective cone into the front cap. Slightly rotate the shaft to avoid the shaft seal lip(s) to be deteriorated.

C : Retaining ring into the front cap.



To avoid damaging the shaft seal do not forget to put a protective cone on the shaft (dim. page 30).

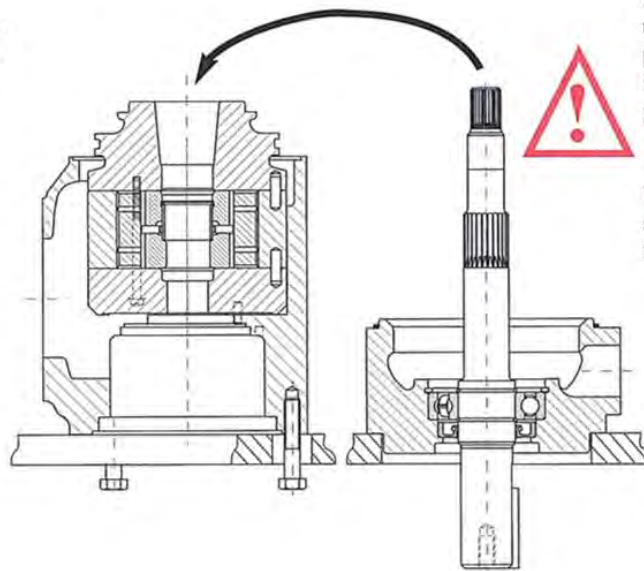


Push on the external bearing "cage".



If the shaft \varnothing is bigger than the shaft seal \varnothing , please contact DENISON (TPI)

3. Assemble the front cap assy on the housing & cartridge assy.

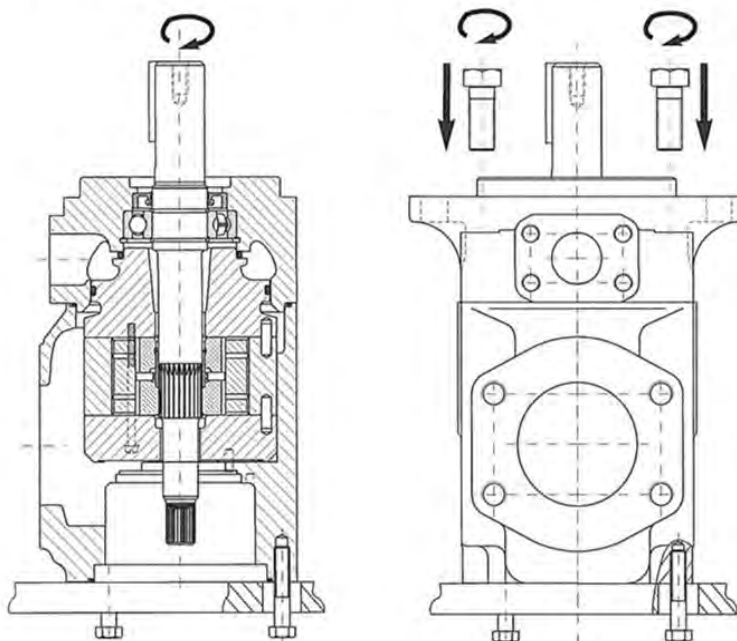


Position the shaft / front cap assy only if the cartridge is well positioned, dowel pin in the housing dowel pin hole.

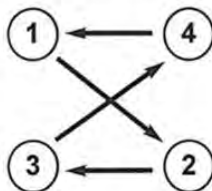
Put some grease on the seals to prevent them from moving.

3. CONVERSIONS

3.3. COMPLETE REASSEMBLY OF THE PUMP :



- a) Always check if the shaft rotates freely.
If not, disassemble and go back to the previous step.
- b) Check the porting configuration (see table page 28).
- c) Tighten the 4 bolts.



Step by step to avoid damaging the seals.

- d) Always check if the shaft rotates freely.
If not, disassemble and go back to the previous step.

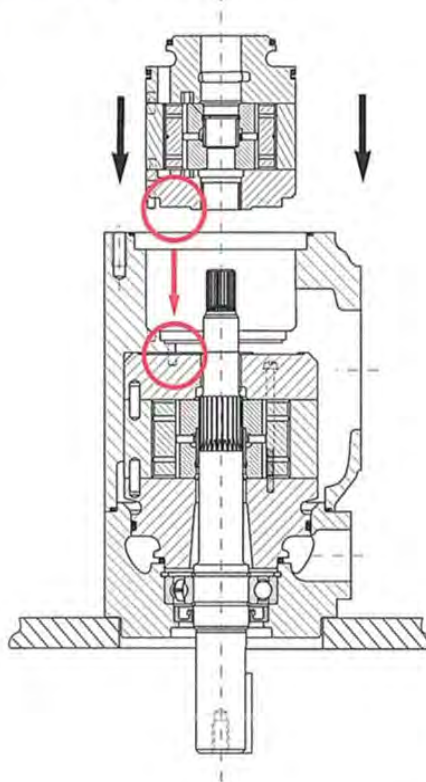
TORQUE REQUIREMENTS.

		Nm	Ft.Lbs
T7BB/S	Housing	187	138
	End cap	61	45
T6CC/M/P - T67CB	Mounting cap	159	117
	End cap	61	45
T7DB/S - T6DC/M/P T67DC - T7EB/S T6EC/M/P - T67EC/M/P	Mounting cap	187	138
	End cap	68	50
T6DD/S - T7DD/S	Housing & end cap	190	140
T6ED/M/P - T7ED/S	Mounting cap & end cap	187	138
T6EE/S - T7EE/S	Cover	88	65
	End cap & Housing	300	221

3. CONVERSIONS

3.3. COMPLETE REASSEMBLY OF THE PUMP :

4 . Fit the cartridge (P2) into the housing.

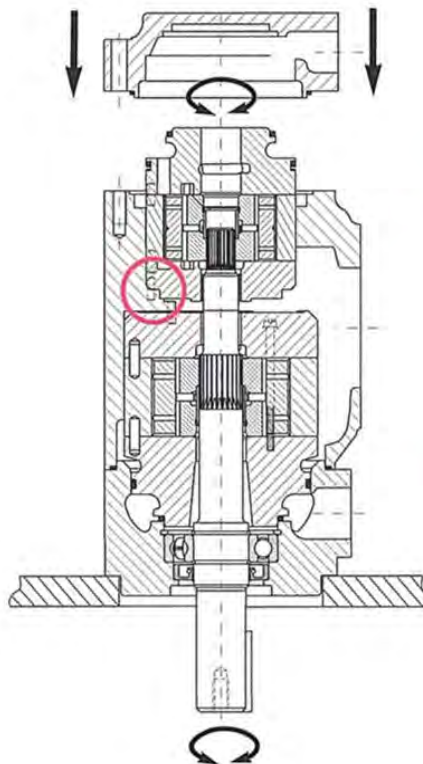


5 . Check if the dowel pin is in its position in the housing by trying to rotate the cartridge.



If the cartridge does rotate, the dowel pin is not in the hole. Take the cartridge out and try again.

6 . Assemble the end cap on the housing assy.



Position the shaft / front cap assy only if the cartridge is well positioned, dowel pin in the housing dowel pin hole.

Put some grease on the seals to prevent them from moving.

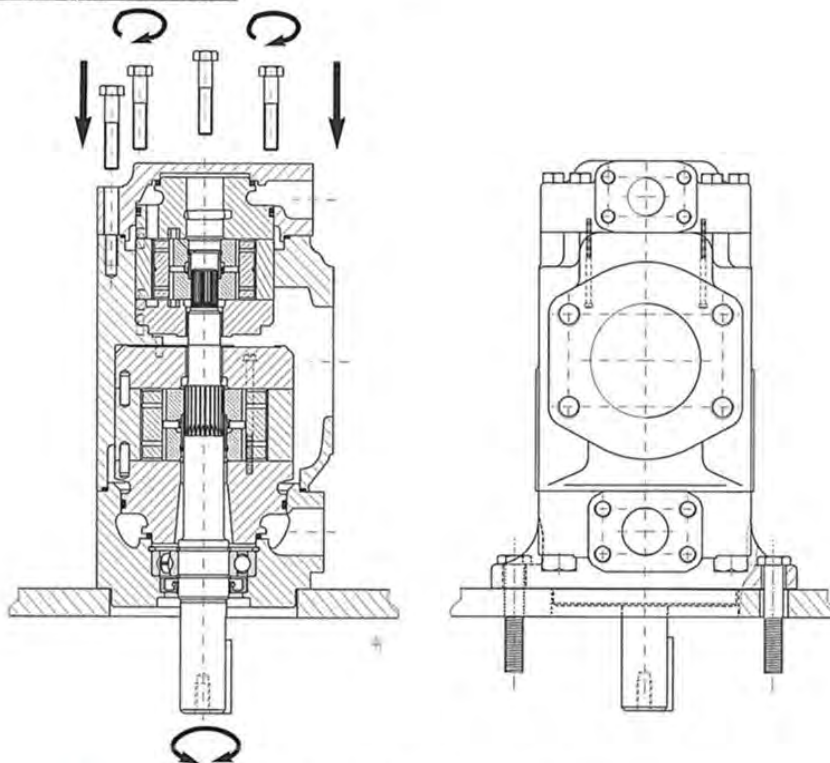


Always check if the shaft rotates freely. If not, disassemble and go back to the previous step.

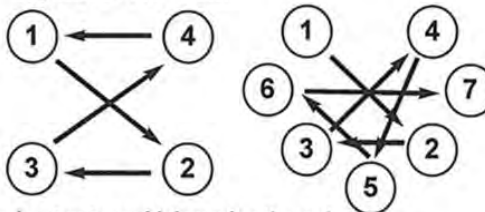
3. CONVERSIONS

3.3. COMPLETE REASSEMBLY OF THE PUMP :

7. Final assy.



- a) Always check if the shaft rotates freely.
If not, disassemble and go back to the previous step.
- b) Check the porting configuration (see table page 28).
- c) Tighten the 4 or 7 bolts.



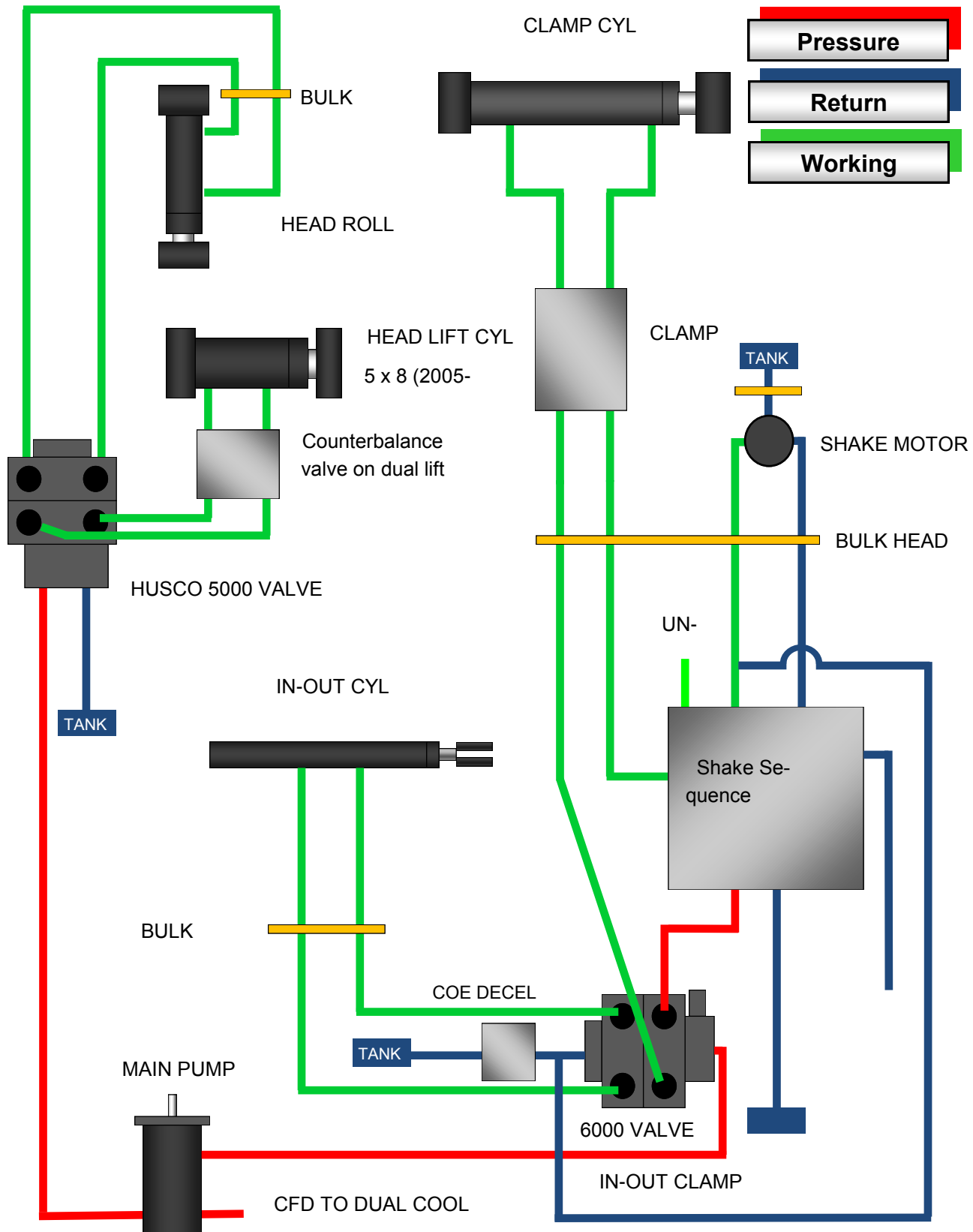
Step by step to avoid damaging the seals.

- d) Always check if the shaft rotates freely.
If not, disassemble and go back to the previous step.

TORQUE REQUIREMENTS.

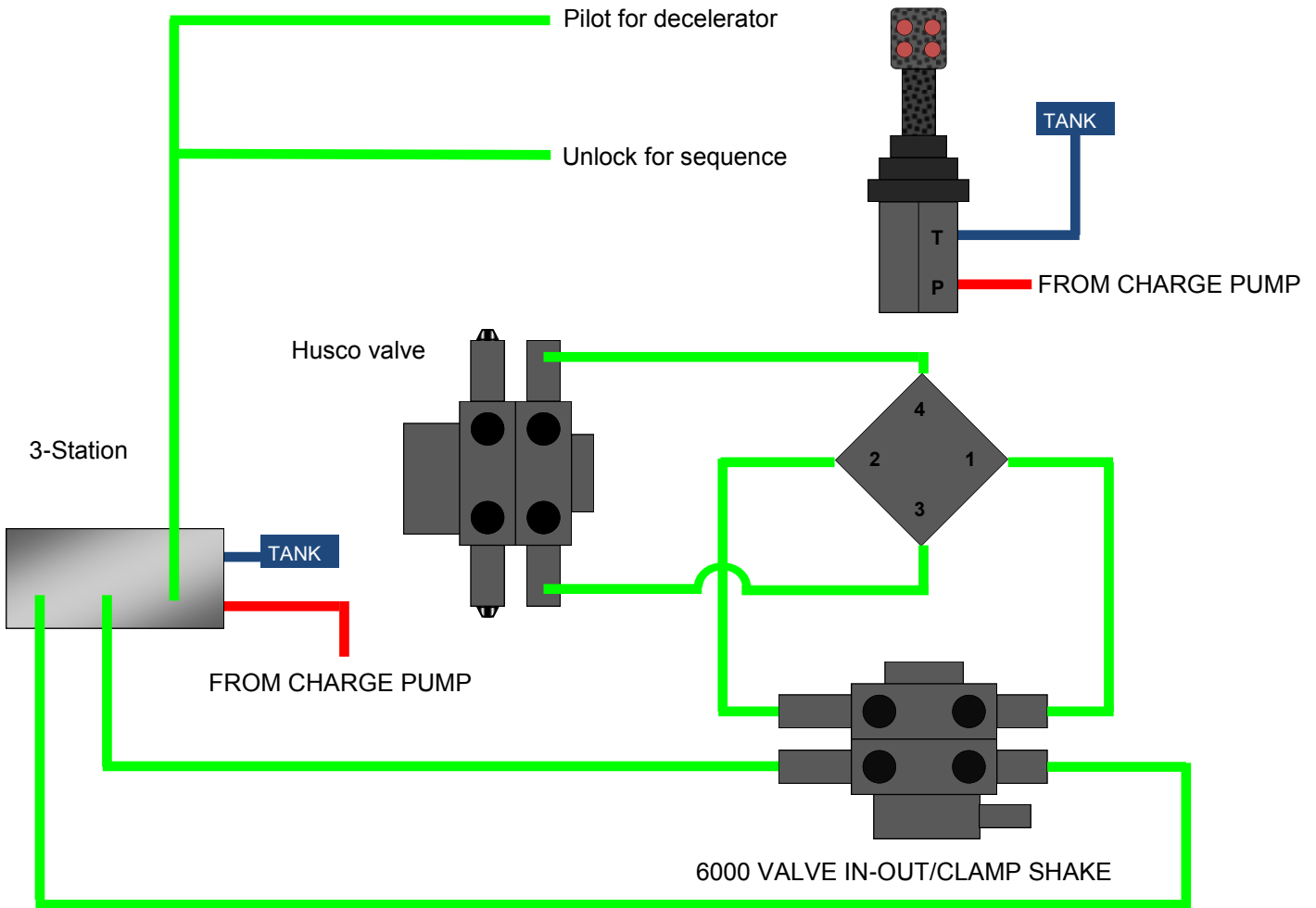
		Nm	Ft.Lbs
T7BB/S	Housing	187	138
	End cap	61	45
T6CC/M/P – T67CB	Mounting cap	159	117
	End cap	61	45
T7DB/S – T6DC/M/P T67DC – T7EB/S T6EC/M/P – T67EC/M/P	Mounting cap	187	138
	End cap	68	50
T6DD/S – T7DD/S	Housing & end cap	190	140
T6ED/M/P – T7ED/S	Mounting cap & end cap	187	138
	Cover	88	65
T6EE/S – T7EE/S	End cap & Housing	300	221

S7 main hydraulic circuit



Flow Charts

S7 pilot circuits

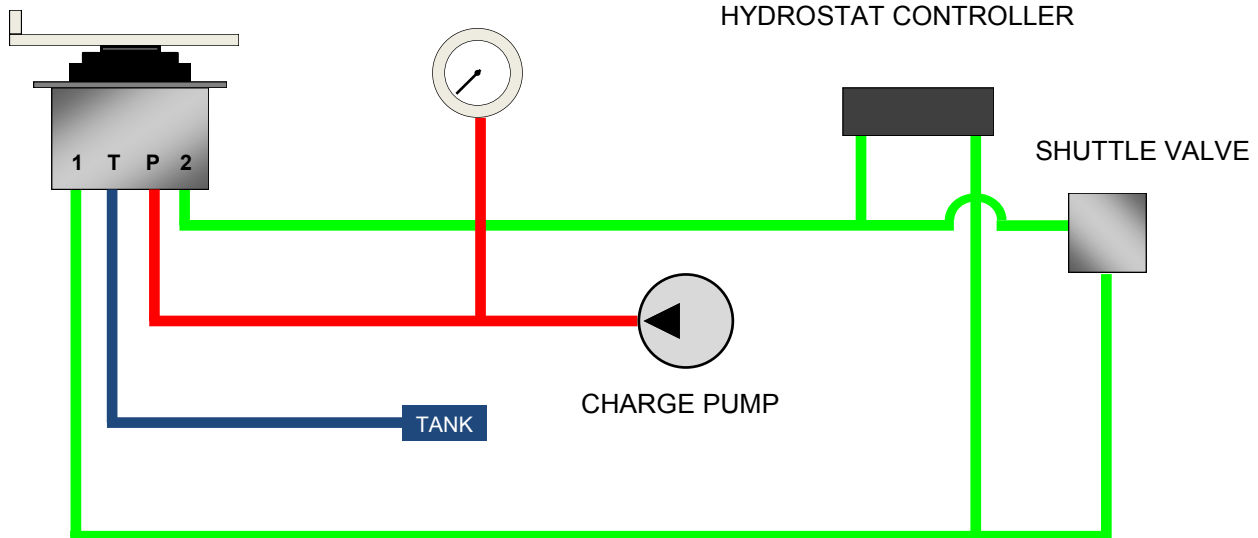


GROUND POWER REMOTE

CHARGE GAUGE

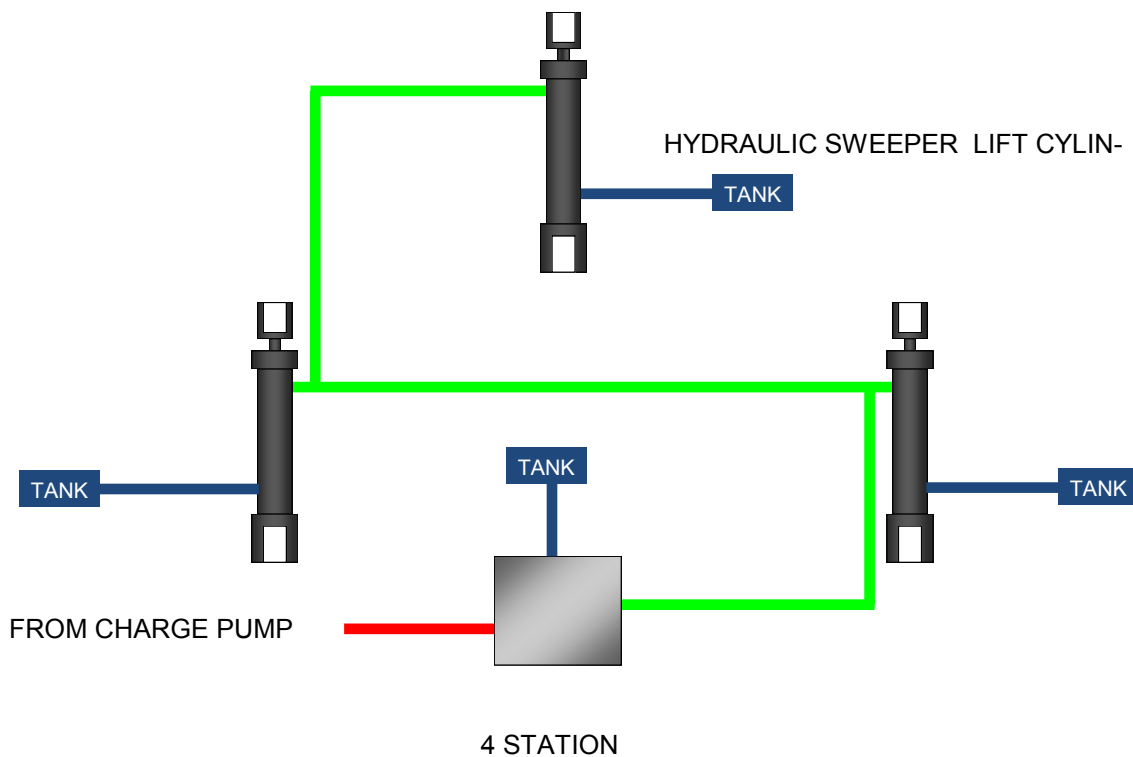
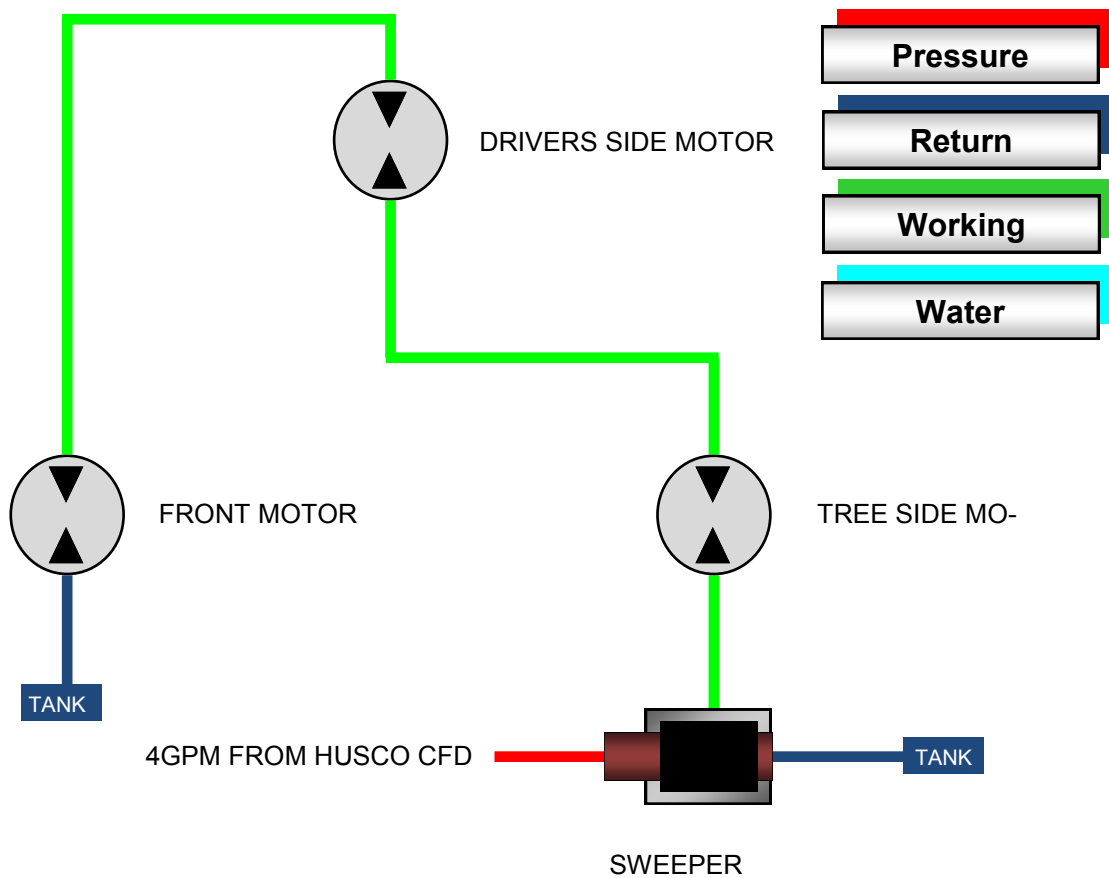
HYDROSTAT CONTROLLER

SHUTTLE VALVE



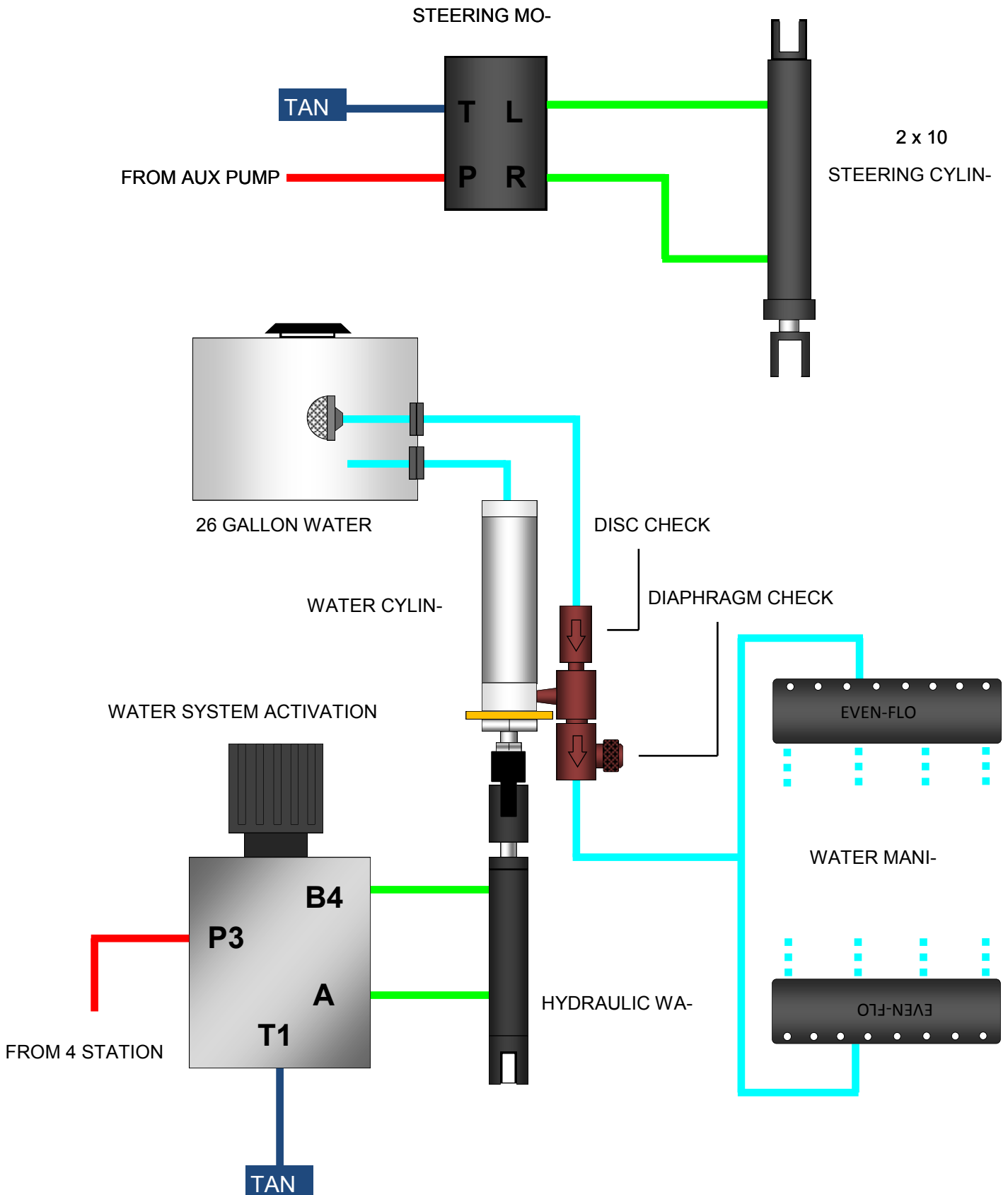
Flow Charts

S7 3 wheel sweeper circuit



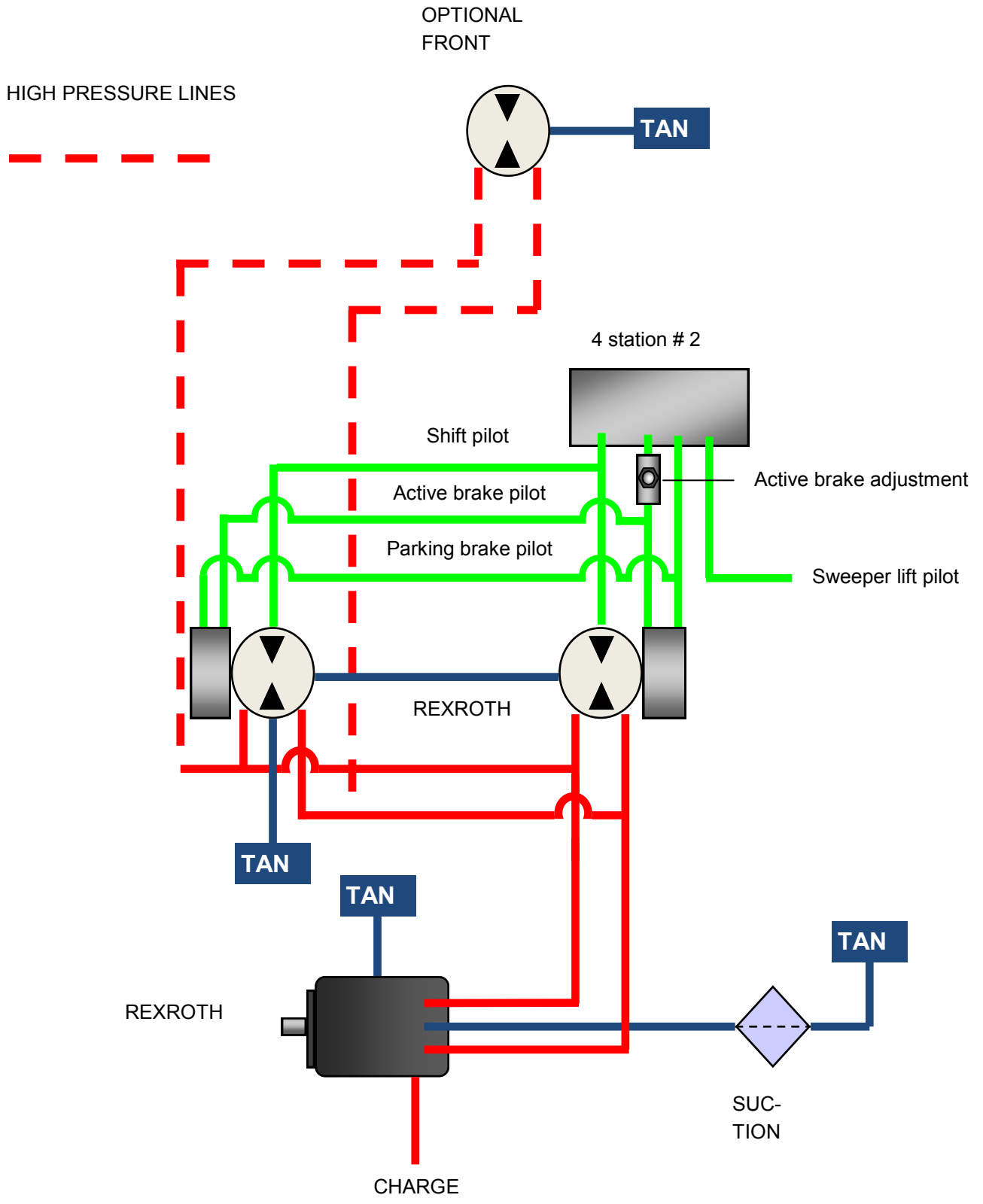
Flow Charts

S7 steering & water system

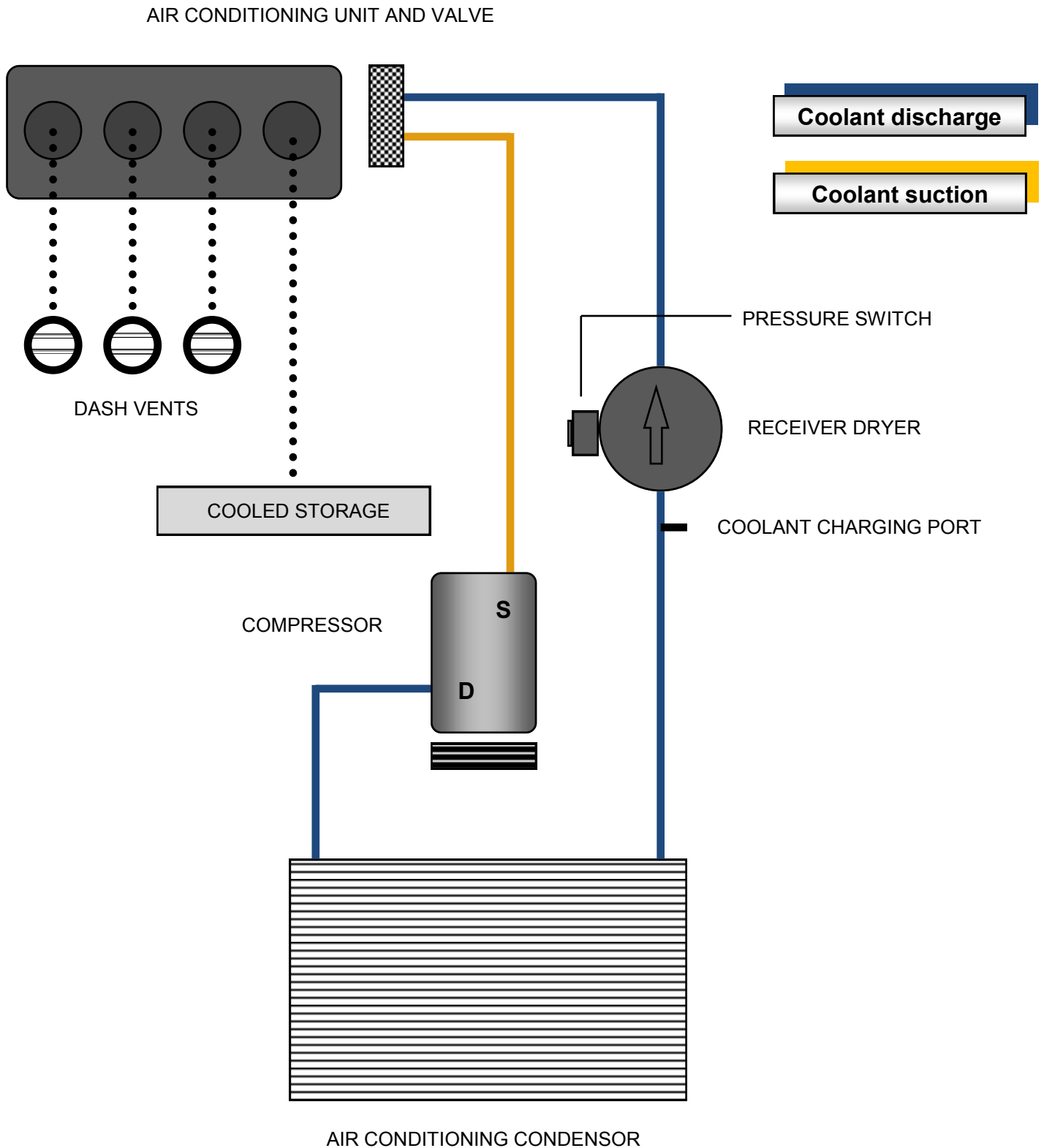


Flow Charts

Ground drive circuit

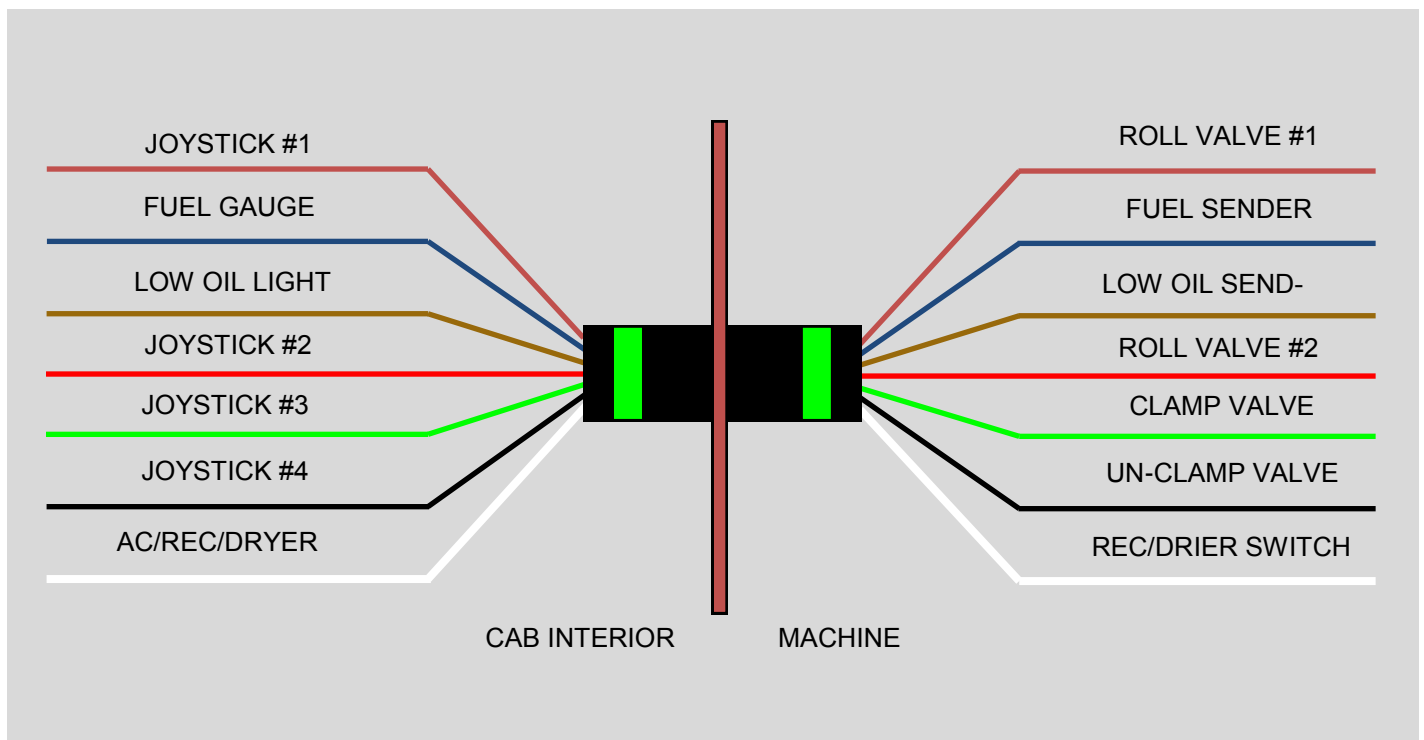
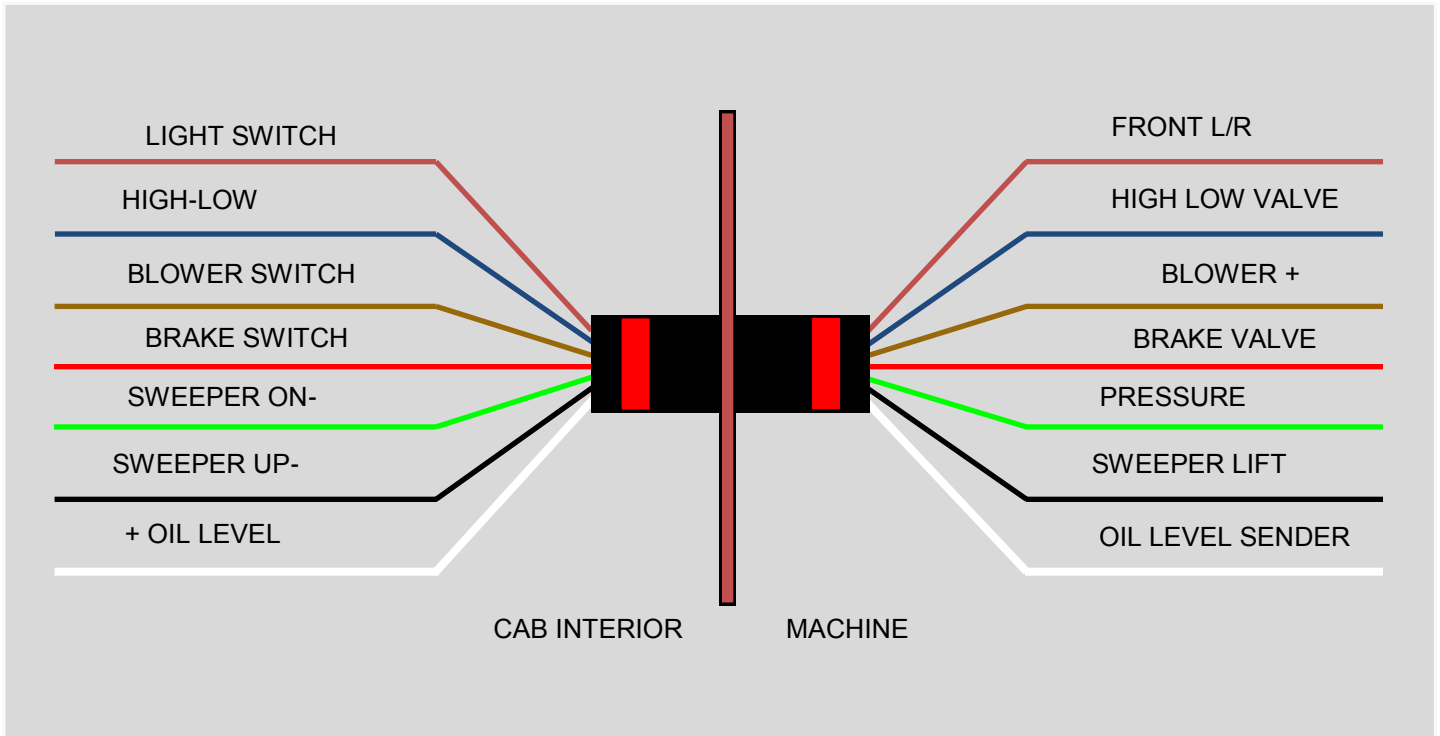


Air conditioning circuit



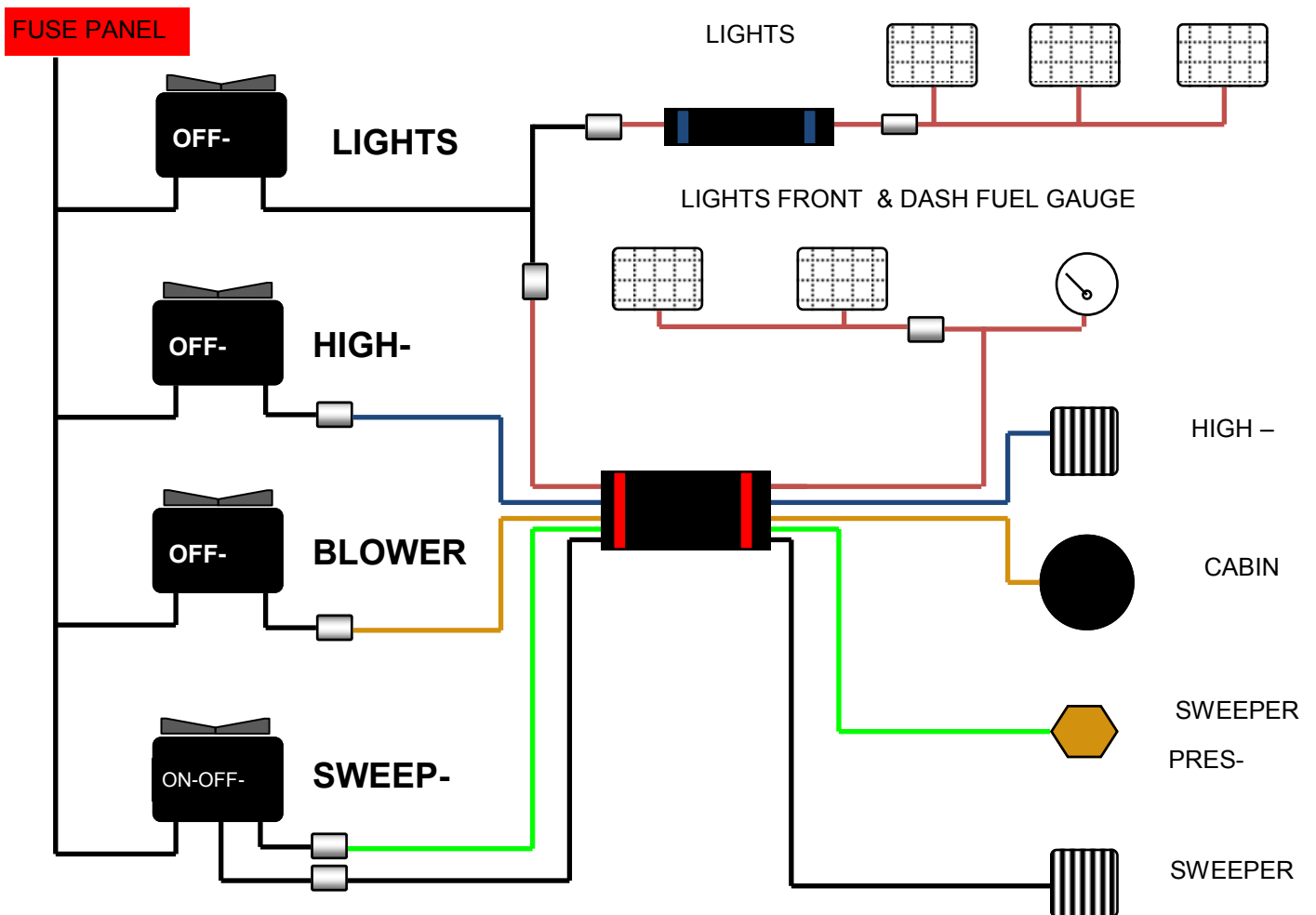
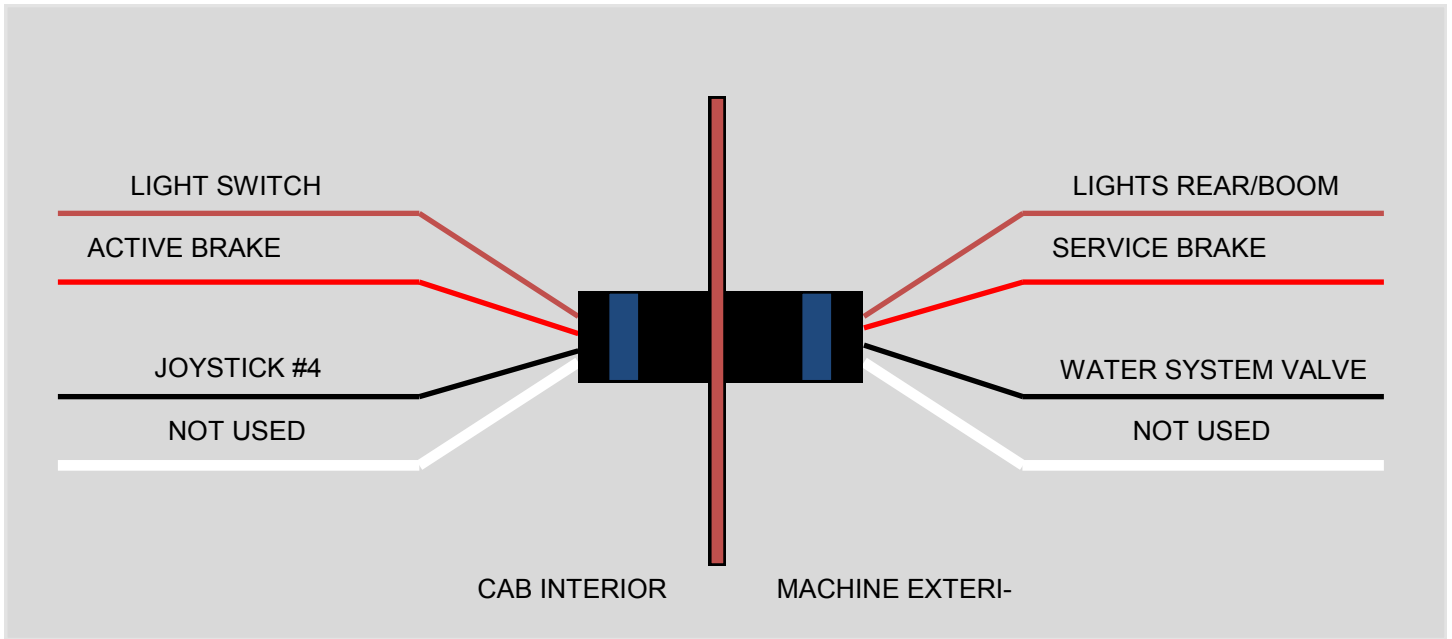
Flow Charts

Wiring harness

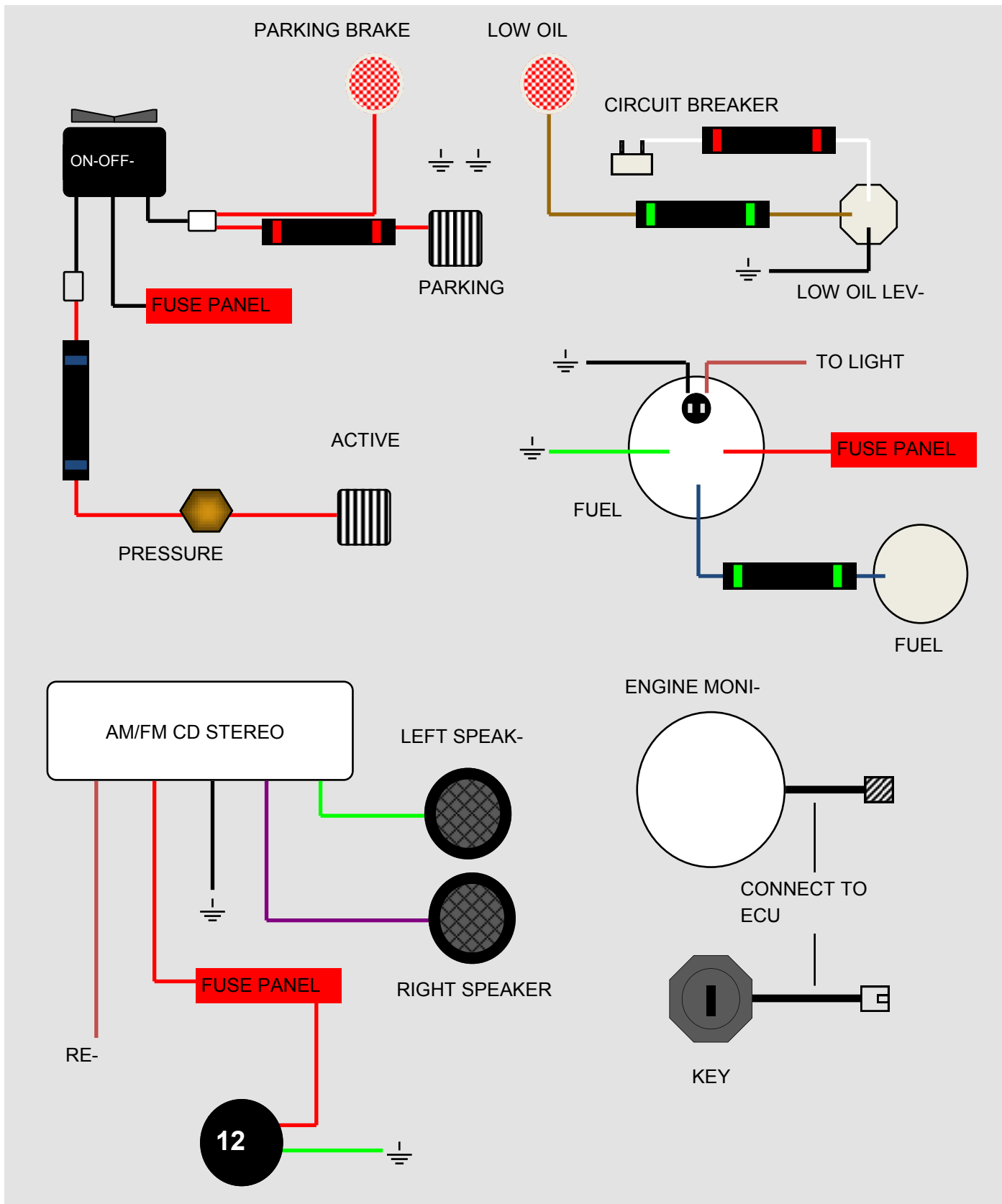


Flow Charts

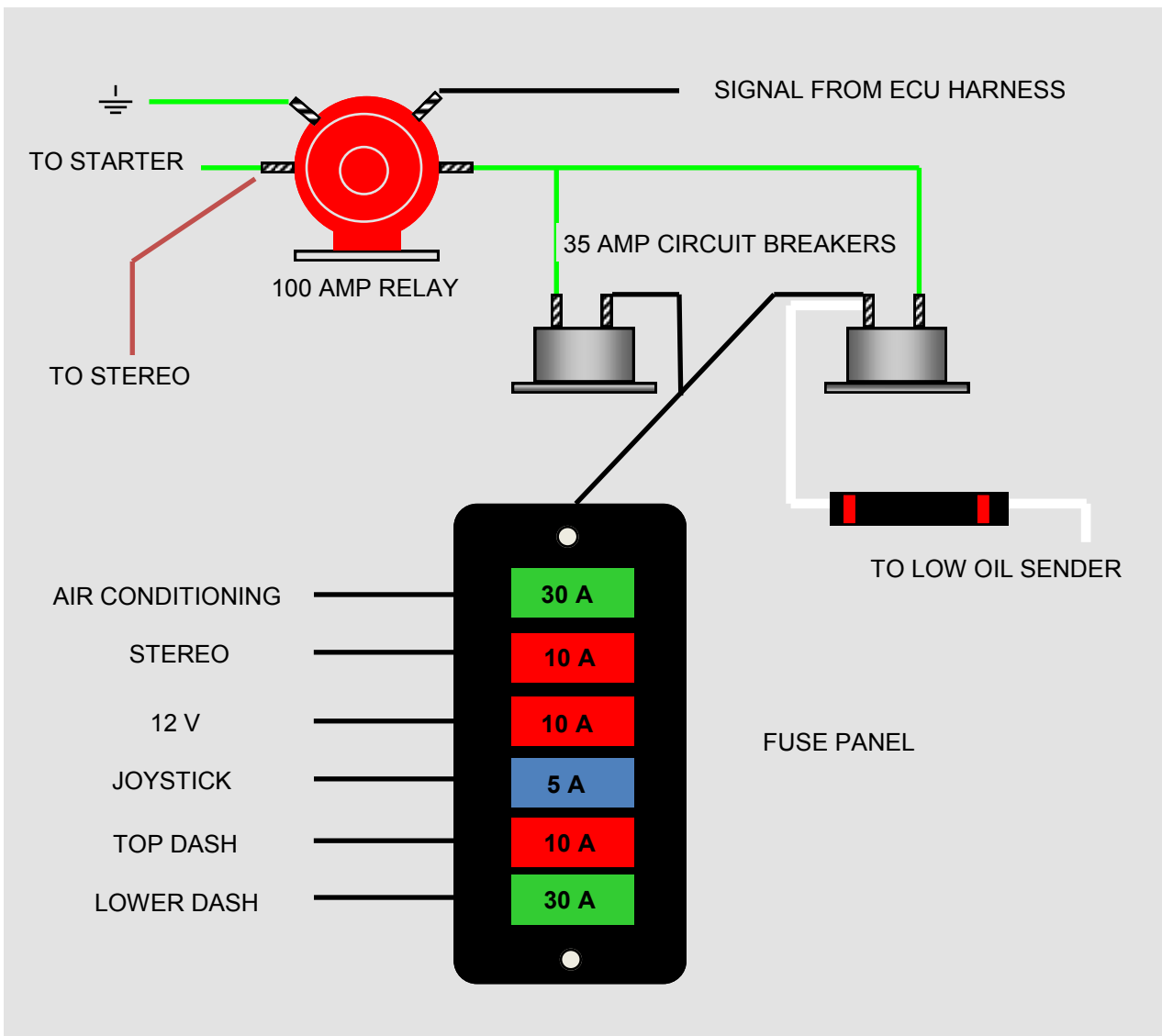
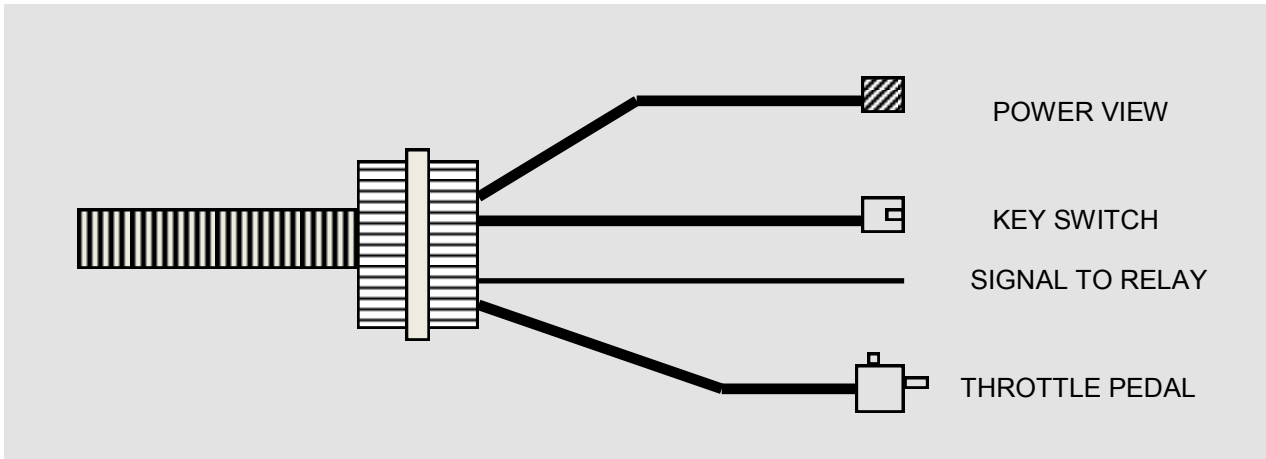
Wiring harness & dash



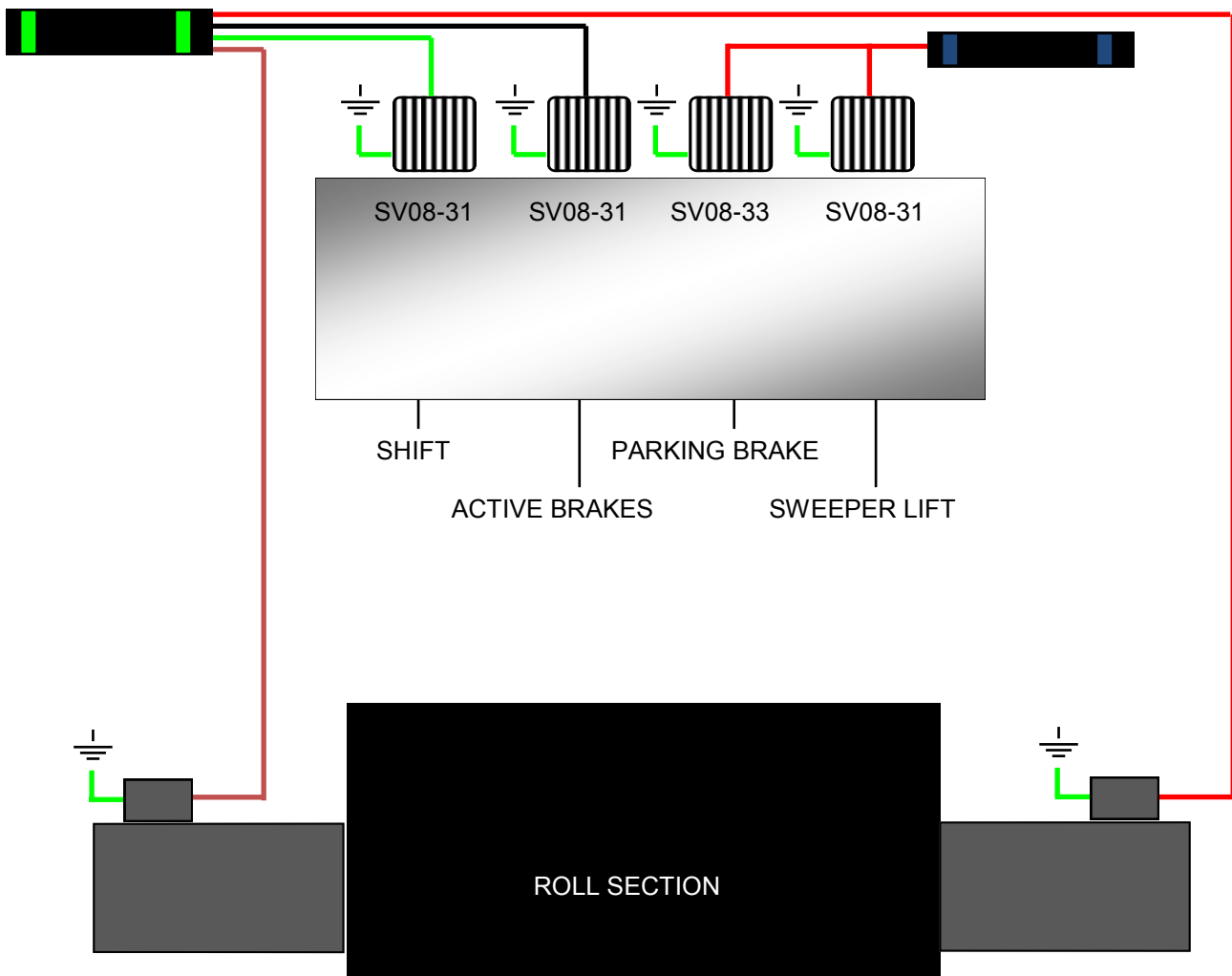
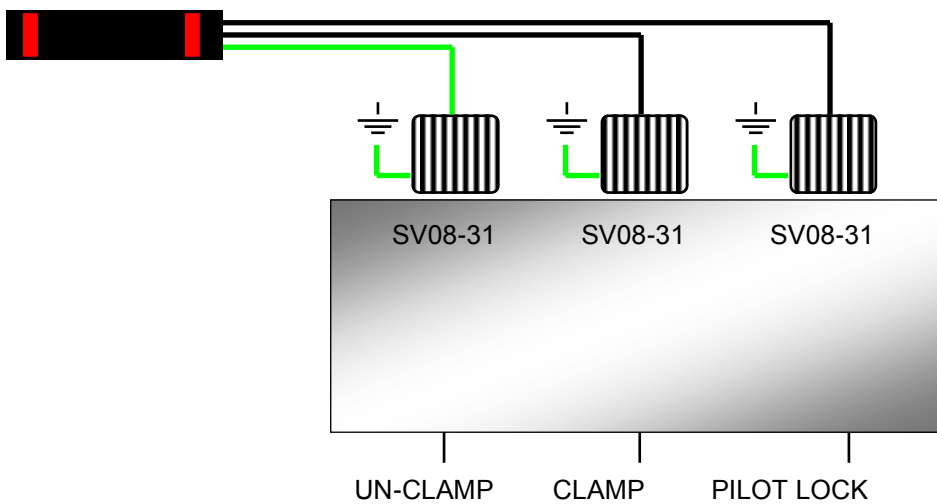
Wiring main dash



Wiring harness & safety

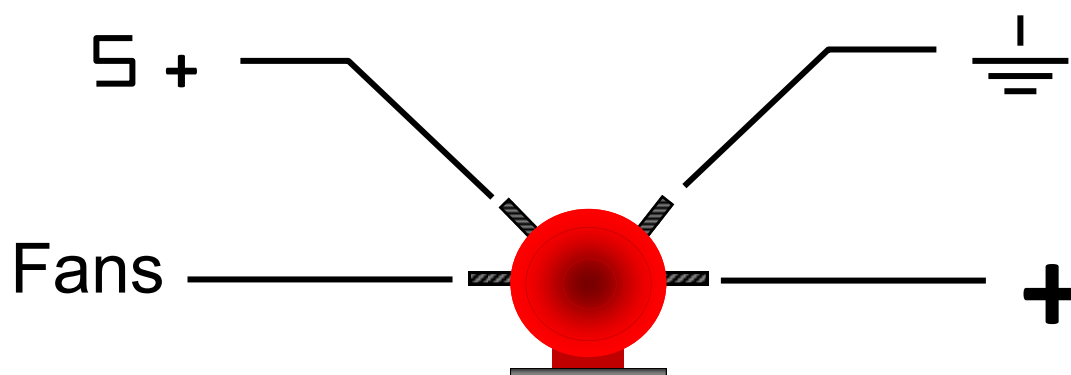
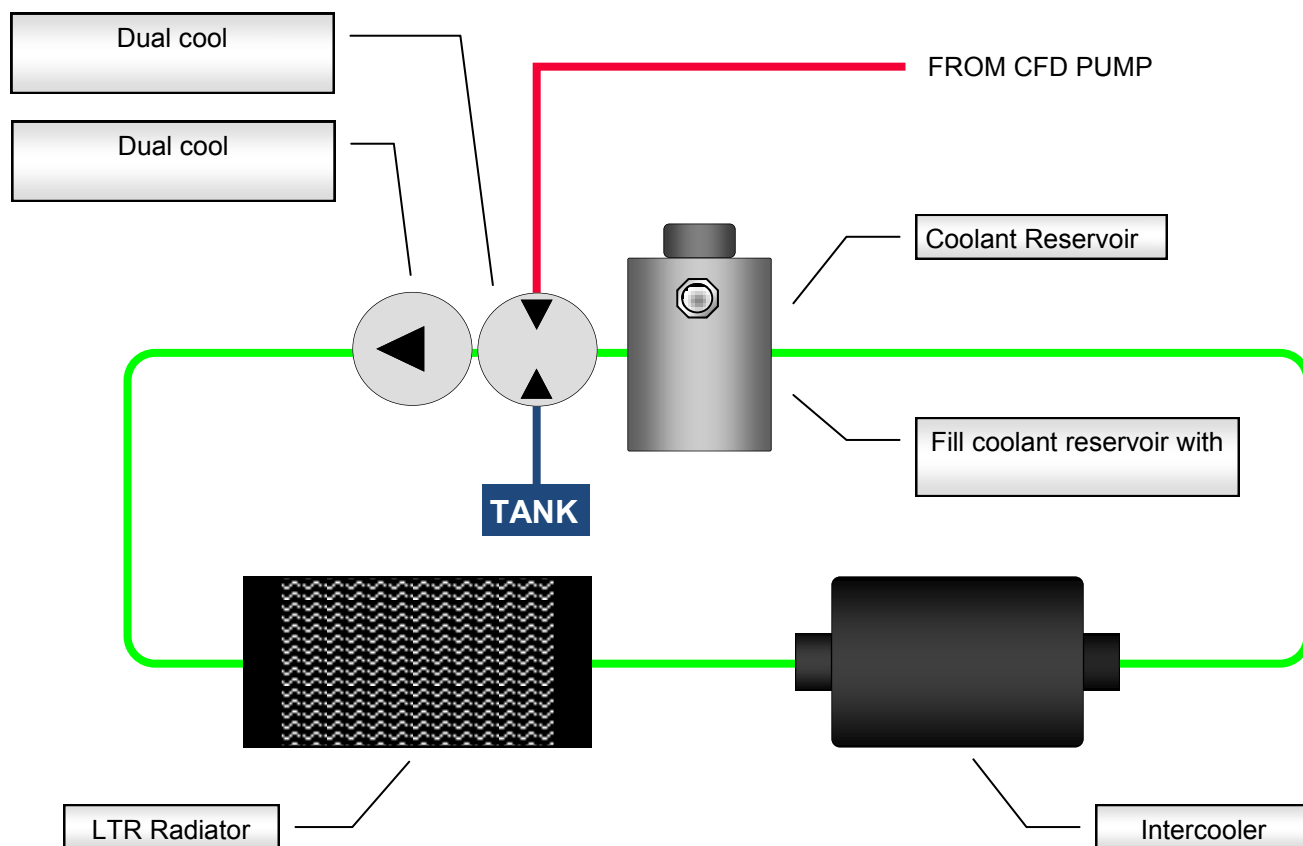


Wiring main dash



Flow Charts

Dual cool system



Note: Dual Cool system not used on tier 2 export engines

SPECIFICATIONS

VEHICLE

- John Deere 6.8 Tier 3 185hp engine
- High debris radiator & dual cool system
- Bosch Rexroth ground drive pump & variable motors
- Auburn Gear planetary 19-1 hubs 2WD
- Fail safe parking & Active service brakes
- COE 33/16.5 x 16.5 12 ply tires
- Dual dry element air cleaner w/ pre cleaner
- LED light bars (Front, side & rear)
- Powder coated finish
- 12,900 lbs weight
- 3 forward automatic sweepers brush or finger style sweepers with hydraulic lift

DIMENSIONS & CAPACITIES

- Length 17 feet 11 inches
- Width travel 8 feet 6 inches (102" legal)
- Width working retracted 11 feet
- Width working extended 13 feet 6 inches
- Height 5 feet 10 inches
- Wheel base 118 inches
- Hydraulic oil reservoir 52 gallons
- Diesel fuel reservoir 47 gallons
- Water system tank 26 gallons
- Tire pressure 60 psi

HYDRAULIC SYSTEM

- Main pump Denison dual vane 25-14 GPM
- Ground drive pump Bosch Rexroth 71CC
- Ground drive motors Bosch Rexroth 2.75CC
- Valves Husco, Sun, Hydra-Force & Parker
- COE Clamp & Shake system integrated in a single piece steel manifold
- COE decelerator valve (shaker head)
- Hydraulic piloted joystick base & foot pedal
- Electric joystick to activate pilot functions
- Oil type 15-40W high grade motor oil
- Parker hose & fittings

SHAKER HEAD

- COE TH-7 Shaker head
- Case T1 steel construction
- VOAC F12-110CC piston drive motor
- Center swing weights
- Billet single piece machined energy wheels
- Spherical bearings grease serviceable
- Single 8V kevlar infused drive belt
- 4 inch bore single clamp cylinder 24 inch opening with 1 1/2 inch pins
- Oval 24 inch 70 duro shaker pads
- 3 Point mounting with oversized mounts & 1 1/8 inch hanger bolts
- 3/4 inch T1 steel clamp arm construction
- Oversized & adjustable rear clamp arm pin
- Powder coated finish

CAB

- Pressurized filtered air conditioned cab
- Tilt steering column
- Adjustable fixed throttle
- Suspension seat with arm rest
- Engine monitor, fuel gauge, low oil light
- Hydraulic system pressure gauges
- 12V power outlet
- Joystick control with 4 button grip
- Cooled storage compartment
- AM/ FM CD iPod adapter stereo & 2 speakers
- Padded cab insulation
- Illuminated rocker switches

OPTIONS

- COE TH-7 X Shaker head
- Shake patterns (HD MD LD)
- 30" clamp opening
- COE **EXCELERATE** programable shake
- COE Axiom hydraulic lift system
- Cabin heater (with air conditioning)
- Sky view roof
- Tier 2 engine (available for export orders)



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