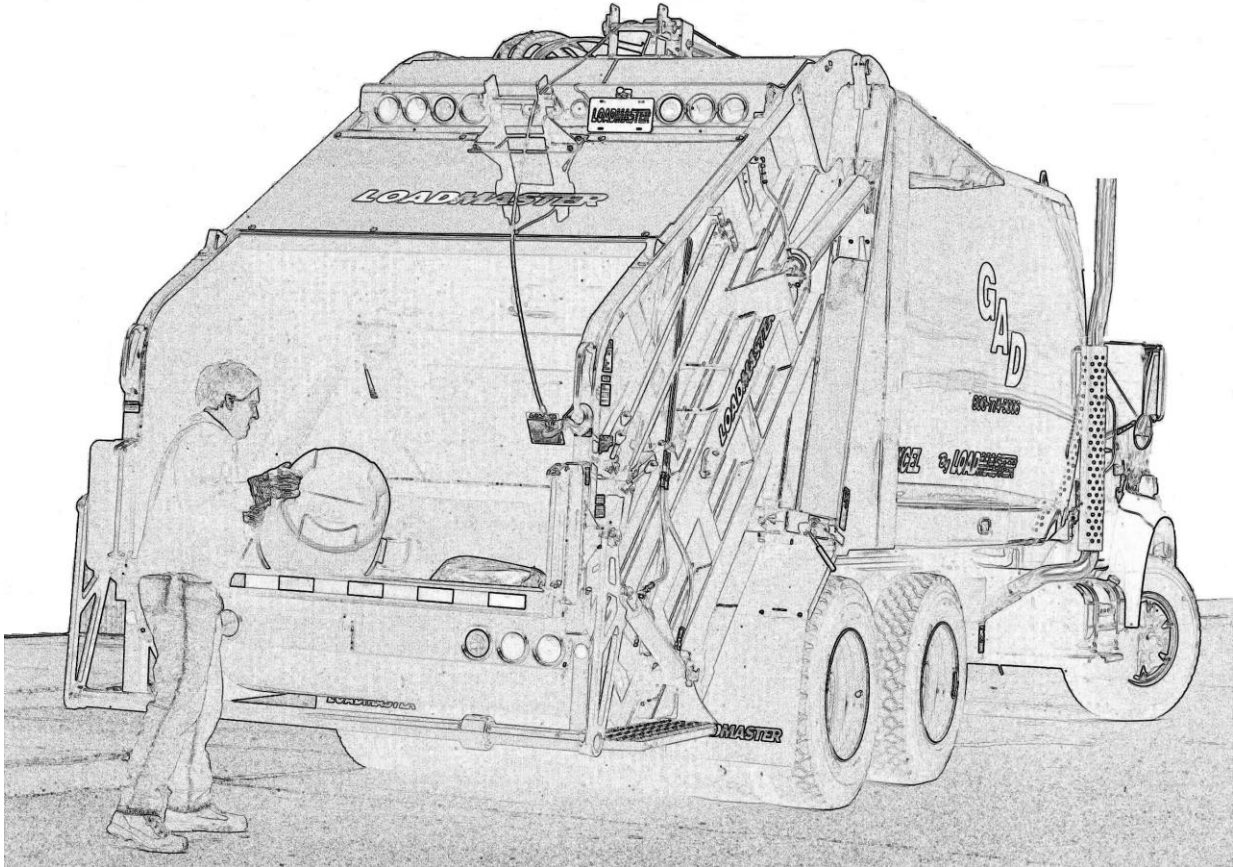


LOADMASTER



EXCEL SERIES MAINTENANCE MANUAL

**LOADMASTER
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**PHONE 906-563-9226
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7-1-2000 release
Rev October 2002
Rev March 2004**

Loadmaster distributor name _____

Distributor phone number _____

Distributor contacts _____

Serial numbers...

Left front body s/n tag

Unit _____ **s/n** _____ **model** _____ **date** _____

Unit _____ **s/n** _____ **model** _____ **date** _____

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June 2007 VERSION

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Section 01

SAFETY PRECAUTIONS

IMPORTANT SAFETY INFORMATION

READ AND UNDERSTAND THIS ENTIRE MANUAL BEFORE OPERATING, REPAIRING, OR ADJUSTING THE EXCEL REAR-LOAD REFUSE PACKER. PEOPLE WHOM USE OR MAINTAIN THIS EQUIPMENT MUST BE THOROUGHLY TRAINED AND FAMILIAR WITH THE MACHINE. IF INCORRECTLY USED OR MAINTAINED, THIS EQUIPMENT CAN CAUSE SEVERE INJURY OR DEATH.

Keep this manual where the people who maintain or operate the EXCEL can have ready access to it. Additional copies are available by contacting LOADMASTER or a LOADMASTER dealer.

Some service operations may require special tools or blocking devices (such as the raised tailgate). If you require information on these items, contact LOADMASTER.

THE SAFETY PRECAUTIONS ARE FOR YOUR OWN PROTECTION.

DO NOT OPERATE OR MAINTAIN OR REPAIR THE EXCEL UNTIL YOU HAVE READ THIS ENTIRE MANUAL AND UNDERSTAND ITS CONTENTS CLEARLY. PLEASE CALL LOADMASTER (906-563-9226) IF YOU REQUIRE ASSISTANCE!

If the operator of this machine or the servicer of this machine has trouble reading, then he/she must be assigned a mentor/trainer who will read and explain to such individual the entire contents of this manual as well as the safety precautions and the danger, warning, caution, and notice decals and placards affixed to the EXCEL. SUCH INDIVIDUAL CAN NOT BE ALLOWED TO OPERATE OR MAINTAIN THE EXCEL UNTIL HE/SHE COMPLETELY UNDERSTANDS ALL OF THESE MATERIALS. FAILURE TO DO THIS CAN RESULT IN SERIOUS INJURY OR DEATH!

SAFETY AND SAFE METHODS MUST BE ADHERED TO AT ALL TIMES. OSHA LOCKOUT PROCEDURES MUST BE FOLLOWED WHEN MAINTAINING THE EXCEL. If you are not familiar with OSHA lockout procedures, contact LOADMASTER or OSHA office.



This **DANGER** symbolism precedes information pertaining to specific immediate hazards, which *if disregarded*, **WILL** result in **severe personal injury** or **death** of the user or others.



This **WARNING** symbolism precedes information pertaining to hazards or unsafe practices which **COULD** result in **severe personal injury** or **death**.



This **CAUTION** symbolism precedes information pertaining to potential hazards or unsafe practices, which if disregarded, may result in a lesser personal **injury** or **damage** to the equipment.

NOTICE

This notice symbol will precede information which is vital to the proper operation or maintenance of the equipment.

 **DANGER**

FOLLOW ALL LOCKOUT/TAGOUT PROCEDURES AS DEFINED IN THIS MANUAL, AS WELL AS WELL AS DEFINED BY YOUR SPECIFIC SHOP (EMPLOYER) AND OSHA! FAILURE TO HEED THIS WARNING OF DANGER MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

 **WARNING**

BEFORE ENTERING THE BODY, ALWAYS SHUTDOWN THE DIESEL, PLACE THE IGNITION KEYS IN YOUR POCKET AND ATTACH A SIGN TO THE STEERING WHEEL THAT SAYS "DO NOT START ENGINE"! PERFORM YOUR SHOP'S DETAILED LOCKOUT/TAGOUT PROCEDURE. THE EJECTOR BLADE COULD MOVE UNEXPECTEDLY CAUSING SERIOUS INJURY OR DEATH.

IF ENTERING THE FORWARD (CAB) SIDE OF EJECTOR, FIRST EXTEND THE EJECTOR BLADE ALL THE WAY REARWARD (TOWARDS TAILGATE) AND "PARK" IT THERE. THEN DO YOUR COMPLETE LOCKOUT/TAGOUT PROCEDURE.

 **DANGER**

STAY CLEAR OF MOVING HOPPER BLADES AND THE HOPPER LOADING SILL WHEN BLADES ARE MOVING! IF YOU OR A WORK PARTNER IS CAUGHT IN THE BLADE ACTION, SERIOUS INJURY OR DEATH WILL RESULT.

 **DANGER**

BEFORE ENTERING THE LOADING HOPPER, ALWAYS SHUTDOWN THE DIESEL, PLACE THE IGNITION KEYS IN YOUR POCKET AND ATTACH A SIGN TO THE STEERING WHEEL THAT SAYS "DO NOT START ENGINE"! DO YOUR SHOP'S DETAILED LOCKOUT/TAGOUT PROCEDURE.

THE BLADES COULD UNEXPECTEDLY AND SUDDENLY BEGIN MOVING WHICH WILL CAUSE SERIOUS INJURY OR DEATH.

 **WARNING**

WHEN REPAIRING THE TAILGATE'S RUBBER SEAL, ALWAYS PROVIDE *THREE DISTINCT MEANS* OF SUPPORT FOR THE PARTIALLY RAISED TAILGATE! TAILGATE COULD SUDDENLY FALL CAUSING SERIOUS INJURY OR DEATH IF TAILGATE IS NOT SUPPORTED IN THREE SEPARATE WAYS.

SEE THE REPAIR TOPIC CALLED "INSTALLING A FRESH TAILGATE SEAL" IN THE REPAIR SECTION OF THIS MANUAL FOR A DETAILED EXPLANATION OF BLOCKING AND PROPPING OF TAILGATE BEFORE BEGINNING SEAL REPLACEMENT.

 **WARNING**

NEVER WORK BENEATH A RAISED TAILGATE THAT HAS A HYDRAULIC CYLINDER REMOVED!

NEVER WORK BENEATH A RAISED TAILGATE THAT HAS A TAILGATE LIFT CYLINDER'S HOSE, FITTING, OR VALVE COMPONENT REMOVED!

TAILGATE MAY SUDDENLY FALL CAUSING SERIOUS INJURY OR DEATH *EVEN IF* THE TAILGATE IS MECHANICALLY PROPPED AND BLOCKED UP. THE TAILGATE LIFT CYLINDERS SYSTEM *MUST BE* PROVIDING *ONE OF THE THREE* MEANS OF SUPPORT BEFORE *WORKING BENEATH* A RAISED TAILGATE.

THE TAILGATE'S HYDRAULIC LIFT SYSTEM MUST BE IN GOOD WORKING CONDITION (AND TWO ADDITIONAL MECHANICAL BLOCKING AND PROPPING MEANS SECURELY INSTALLED) BEFORE WORKING BENEATH A RAISED TAILGATE.

 **WARNING**

ALWAYS FULLY LOWER THE TAILGATE BEFORE REMOVING A TAILGATE LIFT CYLINDER OR ANY OF IT'S PLUMBING COMPONENTS (VALVES, TUBES, FITTINGS, and HOSES)! DO NOT RELY *ONLY* ON MECHANICAL BLOCKING AND PROPPING TO SUPPORT A PARTIALLY RAISED TAILGATE! TAILGATE MAY SUDDENLY FALL CAUSING SERIOUS INJURY OR DEATH.

THE EXCEL'S TAILGATE LIFT SYSTEM IS FULLY SERVICABLE WITH TAILGATE *FULLY LOWERED*.

 **DANGER**

NEVER STAND UNDERNEATH OR WALK BENEATH A MOVING TAILGATE! THE TAILGATE MAY BE LOWERED UPON YOU OR MAY SUDDENLY FALL CAUSING SERIOUS INJURY OR DEATH.

A COMPONENT FAILURE (SUCH AS HOSE END "BLOW-OFF") COULD CAUSE TAILGATE TO SUDDENLY FALL.

 **WARNING**

NEVER STAND UNDERNEATH OR WALK BENEATH A RAISED (OR PARTIALLY RAISED) TAILGATE WHEN SUPPORTED *ONLY* BY ITS HYDRAULIC SYSTEM!

TAILGATE MAY SUDDENLY AND UNEXPECTEDLY FALL DOWNWARD CAUSING SERIOUS INJURY OR DEATH.

SHOULD A HYDRAULIC COMPONENT FAIL, SUCH AS A HOSE-END "BLOW-OFF", THE TAILGATE WILL SUDDENLY FALL.

 **CAUTION**

KEEP THE BODY SIDE ACCESS DOOR CLOSED WHEN EJECTOR BLADE IS IN MOTION! THE EJECTOR BLADE MOVES PAST THE DOOR OPENING AND COULD CAUSE INJURY.

 **DANGER**

YOU MUST NOT OPERATE THE EXCEL UNLESS:

YOU ARE QUALIFIED BY TRAINING AND EXPERIENCE IN THE SAFE OPERATION OF THIS MACHINE.

TRAINING INCLUDES COMPLETE KNOWLEDGE OF YOUR EMPLOYER'S WORK RULES, ALL GOVERNMENTAL REGULATIONS, AND MANUFACTURER'S OPERATOR'S MANUAL RELATIVE TO THIS MACHINE'S SAFE USE.

AN UNTRAINED OPERATOR SUBJECTS HIMSELF/ HERSELF AND OTHERS TO SERIOUS INJURY OR DEATH.

 **DANGER**

YOU MUST NOT SERVICE, MAINTAIN, OR REPAIR THE EXCEL UNLESS:

YOU ARE QUALIFIED BY TRAINING AND EXPERIENCE IN THE SAFE OPERATION OF THIS MACHINE.

TRAINING INCLUDES COMPLETE KNOWLEDGE OF YOUR EMPLOYER'S WORK RULES, ALL GOVERNMENTAL REGULATIONS, AND MANUFACTURER'S OPERATOR'S MANUAL RELATIVE TO THIS MACHINE'S SAFE USE.

A SERVICE TECHNICIAN WHO IS UNTRAINED IN THE SAFE OPERATION OF THE EXCEL SUBJECTS HIMSELF/HERSELF AND OTHERS TO SERIOUS INJURY OR DEATH.

 **DANGER**

YOU MUST NOT SERVICE, MAINTAIN, OR REPAIR THE EXCEL UNLESS YOU ARE THOROUGHLY KNOWLEDGEABLE OF YOUR SHOP'S (YOUR EMPLOYER'S) DETAILED LOCKOUT/TAGOUT POLICIES AND PROCEDURES.

LOADMASTER HAS INCLUDED THE OUTLINE OF A SKELETON, BARE BONES LOCKOUT/TAGOUT PROCEDURE IN THIS MANUAL. IT IS THE RESPONSIBILITY OF THE OWNERS, SUPERVISORS, MAINTAINERS, AND OPERATORS OF THE EXCEL TO FULLY DEVELOP A "DETAILED" LOCKOUT/TAGOUT PROCEDURE/POLICY THAT SUITS YOUR SHOP'S SPECIFIC CIRCUMSTANCES.

 **CAUTION**

THE RIDING STEP SHALL NOT BE USED WHEN:

- SPEEDS EXCEED 10 MPH
- DISTANCE OF TRAVEL IS MORE THAN 2 TENTHS OF A MILE
- VEHICLE IS MOVING BACKWARDS (IN REVERSE)

 **DANGER**

TO PREVENT POSSIBLE INJURY, DEATH, OR PROPERTY DAMAGE, DO NOT USE THIS VEHICLE TO "TOW" OTHER EQUIPMENT. IT IS NOT INTENDED, DESIGNED OR EQUIPPED FOR TOWING.

 **DANGER**

DO NOT ENTER UNDER OR CRAWL UNDER THE CHASSIS UNLESS THE DIESEL IS SHUTDOWN, THE IGNITION KEYS ARE IN YOUR POCKET, AND A SIGN HAS BEEN PLACED ON THE STEERING WHEEL THAT SAYS "DO NOT START ENGINE"! DO YOUR SHOP'S DETAILED LOCKOUT/TAGOUT PROCEDURE INCLUDING WHEEL CHOCKING!

THE VEHICLE WILL RUN YOU OVER CAUSING SERIOUS INJURY OR DEATH. YOU MAY BECOME ENTANGLED IN THE EXPOSED VEHICLE DRIVETRAIN OR THE ROTATING PUMP-PROPELLOR SHAFTING CAUSING SERIOUS INJURY OR DEATH.

 **WARNING**

DO NOT OVERLOAD THE PACKER AND CHASSIS. DO NOT EXCEED THE MANUFACTURER'S POSTED GROSS VEHICLE WEIGHT RATINGS. GROSS VEHICLE WEIGHTS MUST ALSO MEET APPLICABLE FEDERAL, STATE, AND LOCAL LAWS. FAILURE TO COMPLY COULD CAUSE POOR HANDLING AND OUT OF COMPLIANCE BRAKING AND CAUSE SERIOUS INJURY OR DEATH.



WARNING

THE IN-CAB MASTER ROCKER SWITCH LABELED "THRTL" (THROTTLE) MUST BE IN THE "OFF" POSITION WHEN THE TRUCK IS BEING DRIVEN ABOVE 10MPH!

SHOULD THE THROTTLE ENGAGE DURING TRAVEL, LOSS OF VEHICLE CONTROL COULD OCCUR RESULTING IN SERIOUS INJURY OR DEATH.



WARNING

ALWAYS BE CERTAIN THE THROTTLE ADVANCE CAN *NOT* AUTOMATICALLY ADVANCE THE DIESEL RPM UNLESS THE VEHICLE TRANSMISSION IS IN *NEUTRAL!*

AUTOMATIC ADVANCEMENT OF THROTTLE WHILE VEHICLE IS IN A DRIVE OR REVERSE GEAR COULD RESULT IN LOSS OF VEHICLE CONTROL AND CAUSE SERIOUS INJURY OR DEATH.

SHOULD THIS MALFUNCTION EVER OCCUR, PARK THE VEHICLE IMMEDIATELY AND REPAIR *NEUTRAL INTERLOCK* OF THE THROTTLE ADVANCE SYSTEM.



DANGER

NEVER OPERATE, MAINTAIN, OR REPAIR THE VEHICLE OR THE EXCEL WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS! WORKERS UNDER THE INFLUENCE PRESENT A HAZARD TO THEMSELVES AND OTHERS AND CAN CAUSE SERIOUS INJURY OR DEATH.

DO NOT OPERATE, MAINTAIN, OR REPAIR THE VEHICLE OR THE EXCEL UNLESS YOU ARE ALERT, CLEAR-HEADED AND WELL RESTED. IF YOU ARE FEELING TIRED, DO OTHER WORK CHORES THAT DO *NOT* REQUIRE YOU TO BE NEAR A HYDRAULICALLY-POWERED MACHINE.



WARNING

DO NOT WEAR WATCHES, RINGS, AND JEWELRY WHILE WORKING WITH MECHANICAL OR ELECTRICAL EQUIPMENT. DO NOT WEAR LOOSE CLOTHING THAT COULD ENTAGLE YOU INTO MOVING OR ROTATING COMPONENTS. THESE TYPES OF THINGS WILL BE HAZARDOUS AND COULD CAUSE SERIOUS INJURY OR DEATH IF WORN NEAR MOVING MECHANICAL OR HYDRAULIC MACHINE PARTS.



WARNING

DO WEAR PERSONAL PROTECTION ITEMS SUCH AS HARD HATS, SAFETY GLASSES (EYE PROTECTION), HEAVY GLOVING, AND SAFETY SHOES WHEN OPERATING OR MAINTAINING THE EXCEL OR CHASSIS. OPERATORS SHOULD WEAR VESTING THAT HAS A BRIGHT COLORATION (ORANGE) AND REFLECTIVE CHARACTERISTICS FOR DAY/NIGHT VISIBILITY. FOLLOW ALL OF YOUR EMPLOYER'S REQUIREMENTS FOR PERSONAL PROTECTIVE ITEMS.



WARNING

BEFORE OPERATING THE PACKER, BE CERTAIN TO CLEAR THE AREA OF ALL PEOPLE. ALWAYS BE ATTENTIVE WHEN OPERATING THE CONTROLS. WATCHDOG THE AREA FOR ACTIVITY. SCAN YOUR MIRRORS REGULARLY. NEVER BACK-UP THE VEHICLE UNLESS YOU ARE COMPLETELY CERTAIN IT IS SAFE TO DO SO. USE A HELPER/OBSERVER OR GET OUT YOURSELF, IF NECESSARY, TO ASSURE YOU CAN SAFELY BACK-UP. THOROUGHLY UNDERSTAND THE CONTROLS BEFORE OPERATING THE PACKER. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH TO YOURSELF OR OTHERS.



CAUTION

ALWAYS KEEP THE IN-CAB "GATE AJAR" PILOT LIGHT IN GOOD WORKING CONDITION. ALWAYS BE SURE THE BACK-UP ALARM SOUNDS WHENEVER THE TAILGATE IS RAISED-UP A FOOT OR SO. REPLACE LAMP BULB OR REPAIR ELECTRICAL WIRE SYSTEM IMMEDIATELY. FAILURE TO DO SO COULD LEAD TO SERIOUS SITUATIONS.



WARNING

BEFORE RAISING THE TAILGATE, BE SURE THERE EXISTS ADEQUATE CLEARANCE BETWEEN TAILGATE AND ANY BUILDING STRUCTURE OR ELECTRICAL POWER LINES (OR ANY OTHER OBSTACLES). ALLOWING THE TAILGATE TO STRIKE OBJECTS OR POWER LINES COULD CAUSE SERIOUS INJURY OR DEATH.

 **DANGER**

ALWAYS DRIVE CAREFULLY AND DEFENSIVELY! ALWAYS BE AWARE THE CHASSIS/PACKER IS A *HEAVY* VEHICLE AND NOT A PASSENGER CAR. THE CHASSIS/PACKER WILL REQUIRE SLOWER CORNERING SPEEDS AND LONGER STOPPING DISTANCES. THE CHASSIS/PACKER WILL HAVE A HIGHER CENTER OF GRAVITY WHICH PRESENTS A "ROLL-OVER" HAZARD IF DRIVING HABITS ARE NOT ADJUSTED. BE AWARE THE CHASSIS/PACKER'S HANDLING AND BRAKING CHARACTERISTICS WILL *CHANGE* AS YOU BUILD A PAYLOAD. FAILURE TO ACCOUNT FOR THESE FACTORS COULD LEAD TO ROLL-OVER OR LOSS OF CONTROL RESULTING IN SERIOUS INJURY OR DEATH.

 **CAUTION**

HYDRAULIC SYSTEMS ARE HOT! DO NOT TOUCH ANY HYDRAULIC COMPONENTS OR YOU MAY BURN YOURSELF.

ALLOW THE HYDRAULICS SYSTEM TO COOL DOWN TO 100 DEGREES FAIRENHEIGHT (OR LESS) BEFORE DOING ANY HYDRAULIC MAINTENANCE OR REPAIR ACTIVITIES.

 **WARNING**

WHEN REPLACING A HYDRAULIC "PLUMBING" COMPONENT SUCH AS A HOSE, TUBE, OR A FITTING, BE CERTAIN YOU USE ONLY AN EQUIVALENT PRESSURE RATING (OR HIGHER) REPLACEMENT PART! FAILURE TO HEED THIS WARNING COULD RESULT IN SUDDEN FAILURE (BURSTS OR FORCEFUL LEAKS) OF THE INFERIOR REPLACEMENT AND COULD CAUSE SERIOUS INJURY OR DEATH.

HIGH PRESSURE OIL STREAMS CAN CAUSE SERIOUS BURNS OR CAN PENETRATE TISSUE. FIRE CAN OCCUR IF THE ESCAPING OIL HITS A HOT SURFACE (SUCH AS VEHICLE EXHAUST SYSTEM). MACHINE COMPONENTS COULD SUDDENLY FALL OR OTHERWISE MOVE UNCONTROLLABLY.

THE CORRECT LENGTH OF HOSE MUST ALSO BE USED. CALL LOADMASTER IF IN ANY DOUBT ABOUT CORRECT REPLACEMENT PARTS FOR YOUR LEGACY.

GETTING YOUR REPLACEMENT HYDRAULIC PLUMBING COMPONENTS FROM LOADMASTER WILL ASSURE CORRECT SPECIFICATIONS. IF YOU MUST PROCURE IT IN YOUR LOCALITY, USE ONLY NAME BRAND PARTS AND USE A REPUTABLE HYDRAULIC HOSE/FITTING ASSEMBLY HOUSE. DO NOT ALLOW THE "MIXING" OF DIFFERENT BRANDS AS THEY WILL NOT CORRECTLY MATE.

 **DANGER**

ALWAYS EXERCISE YOUR HIGHEST SPECIAL CARE WHEN "BACKING-UP" THE CHASSIS/PACKER!

THE CHASSIS/PACKER IS TYPICAL OF ALL REAR LOADERS IN THAT IT HAS A "BLIND-SPOT" WHICH THE VEHICLE'S MIRRORS CAN *NOT* PUT INTO THEIR "FIELD OF VISION".

FAILURE TO ALWAYS USE THE MOST EXTREME CARE IN BACKING-UP THE CHASSIS/PACKER WILL RESULT IN SERIOUS INJURY OR DEATH TO BYSTANDER OR WORK PARTNER.

ALWAYS FOLLOW YOUR EMPLOYER'S "SAFEST WAY TO BACK-UP" PROCEDURES/POLILCIES. THESE SHOULD INCLUDE:

- PLANNING YOUR COLLECTION ROUTES TO MINIMIZE THE NEED FOR BACK-UPS
- USING A HELPER/OBSERVER TO GUIDE THE PERSON BEHIND THE STEERING WHEEL WHEN BACKING-UP
- HELPER/OBSERVER MUST ALWAYS BE OFF TO THE SIDE OF THE CHASSIS/PACKER AND WITHIN THE MIRRORS' FIELD OF VISION
- NEVER EXCEEDING ¼ MPH WHEN IN REVERSE
- ALWAYS KEEPING THE BACK-UP-ALARM IN TOP WORKING CONDITON...(KEEP IN MIND THAT *JUST HAVING* A FUNCTIONAL BACK-UP-ALARM IS *NOT* ENOUGH TO ASSURE SAFEST "BACKING-UP").
- ANYTHING ELSE YOU AND YOUR EMPLOYER DEEM HELPFUL TO BACKING-UP WITH EXTREME SAFETY



CAUTION

THE HYDRAULICS SYSTEM MAY HAVE "TRAPPED" HIGH-PRESSURES EVEN WHEN DIESEL IS OFF. ALWAYS RELIEVE THESE TRAPPED PRESSURES BY RATTLING THE CONTROL LEVERS ABOUT THEIR CENTERED-NEUTRAL POSITIONS (WITH THE DIESEL SHUTDOWN) BEFORE LOOSENING ANY SYSTEM CONNECTIONS.

SOME MACHINE COMPONENTS COULD HAVE GRAVITY PULLING ON THEM AS THEY ARE HYDRAULICALLY HELD IN PLACE. ALWAYS STOP AND THINK FIRST IF A BLADE OR OTHER MACHINE COMPONENT NEEDS TO BE REPOSITIONED TO ITS "DEAD END" (OR OTHER POSITION) SO IT WILL NOT MOVE BY GRAVITY WHEN A HYDRAULIC CONNECTION IS LOOSENED FOR REPAIR.



WARNING

HYDRAULIC HOSES AND TUBING MUST BE INSPECTED ON A DAILY BASIS FOR LEAKS, CUTS, ABRASIONS, DAMAGE, RUBBING (NO CLEARANCE IN ROUTING), BEFORE THE TRUCK IS PUT IN SERVICE. IF YOUR INSPECTION DISCOVERS SUCH ADVERSE CONDITIONS, THE SITUATION MUST BE CORRECTED BEFORE TRUCK CAN BE PLACED IN SERVICE. LOADMASTER RECOMMENDS YOU REPLACE *ALL* OF YOUR RUBBER HOSES AND THE CLAMPING AT LEAST EVERY THREE YEARS.

FAILURE TO CLOSELY INSPECT AND MAINTAIN YOUR LEGACY AND CHASSIS COULD LEAD TO SERIOUS INJURY.



WARNING

NEVER OPERATE THE HYDRAULIC SYSTEM IF ANY LEAK IS PRESENT. SERIOUS INJURY MAY RESULT.



WARNING

THE HYDRAULIC CYLINDERS COULD BE HOLDING A PARTICULAR COMPONENT (SUCH AS A "BLADE") IN A PARTICULAR POSITION WHEN THE DIESEL IS OFF. AN EXAMPLE OF THIS IS WOULD BE THE SLIDER BLADE HELD UPWARD IN ITS "HOME" POSITION BY THE OIL "LOCKED" INSIDE ITS CYLINDERS WITH DIESEL OFF. IF A HYDRAULIC HOSE OR FITTING IS THEN WORKED-ON, GRAVITY WILL MOVE THE COMPONENT TO A NEW POSITION IN A UNCONTROLLABLE FASHION. FAILURE TO ACCOUNT FOR THIS FACT COULD RESULT IN SERIOUS INJURY OR DEATH.

OFTEN YOU CAN PURPOSEFULLY MOVE THE COMPONENT TO A POSITION WHERE GRAVITY CAN NOT MOVE IT *BEFORE* WORKING ON THE HYDRAULICS.

SOMETIMES YOU WILL NEED TO SECURE THE COMPONENT IN PLACE BY WELDING TEMPORARY STEEL "BLOCKING" OR "STOPS" ONTO THE PACKER.

CALL LOADMASTER IF YOU HAVE ANY DOUBTS ABOUT THE CORRECT AND SAFEST METHODS OF DOING THIS.



WARNING

ALL OF THE EXCEL'S PRESSURE GAUGE READINGS ARE TO BE TAKEN AT THE GAUGE STEM LOCATED AT THE INLET COVER OF THE BODY-MOUNTED VALVE! USE A GLYCERIN FILLED GAUGE ON THE END OF A 24" HOSE (1/4" DIAMETER WITH 3000 PSI WORKING PRESSURE RATING) THAT ALLOWS YOU TO BE FULLY OUTSIDE THE BODY WITH BOTH FEET ON GROUND AND THEN TAKE THE GAUGE READING. DIESEL MUST BE SHUTDOWN AND KEYS IN YOUR POCKET BEFORE ENTERING THE BODY THROUGH THE ACCESS DOOR TO COUPLE THE GAUGE COUPLER.

IF YOUR TRUCK HAS A GAUGE STEM AT THE INLET COVER OF THE TAILGATE-MOUNTED VALVE...IT IS TO BE USED ONLY FOR ADJUSTING THE KNOCK-OUT POSITIONERS USING A SPECIAL DIGITAL ELECTRONIC METER (SUCH AS A PARKER SENS-O-TECH) WITH LONG SENSOR WIRES THAT ALLOW ALL PERSONNEL TO BE "FEET ON THE GROUND" AND WELL AWAY FROM BLADES AND LOADING SILL WHEN DIESEL IS RUNNING.

NEVER ATTEMPT TO READ A GLYCERIN-FILLED GAUGE WHICH IS ATTACHED TO THE INLET COVER OF THE *TAILGATE*-MOUNTED VALVE. ALWAYS COUPLE YOUR GLYCERIN FILLED GAUGE TO THE BODY-MOUNTED VALVE'S GAUGE STEM.

Section 02 PREVENTIVE MAINTENANCE...EXCEL

This section provides information specific to the **EXCEL** that will be the basis for your P-M program. Preventive maintenance actions are done to assure the **EXCEL** will efficiently and safely collect garbage for many years.

At the core of your preventive maintenance activities will be *three* major needs...

Keeping all of the Excel's safety related systems in good working condition.

A regular lubrication/greasing discipline.

Keeping the Excel's hydraulic fluid clean.

Preventive maintenance will extend beyond these *three*, but they deserve special mention and your special attention.

Read and understand all of the safety precautions given in this manual. The very nature of the P-M activities will sometimes require service/maintenance people to be *inside of, underneath of, or on top of* the **EXCEL**.

Your shop's *safety* policies and procedures must be followed. Be certain your shop has a detailed LOCKOUT/TAGOUT policy in place and be certain all service/maintenance people understand it and follow it.

The service and maintenance people must understand the safety precautions stated for the various, specific service/maintenance procedures.

The service/maintenance people must also have a thorough understanding of correct **EXCEL OPERATION** methods and follow all of the *operational* safety precautions and those that apply to service/maintenance activities.

P-M activities follow a periodic *schedule*. A record-keeping system of some sort is invaluable, if not mandatory. Many of today's maintenance record keeping systems are computerized. **LOADMASTER** has attempted to keep things simple and realistic in this manual recommendation for periodic preventive maintenance. The time periods/frequencies are stated in plain "calendar" terms. Many record-keeping systems are based upon "hours" given by the vehicles "hour meter".

Use these conversions to suit your situation...

Every day means 8 hours

Every week means 40 hours

Once a month means about 160 hours

Every six months means 1,000 hours

Once a year means about 2,000 hours

You can "tweak" these intervals a little bit to suit your specific situation for *grouping* P-M actions so that the real world logistics of *getting them done* is the most practical. Use your best judgment.

Occasionally, **LOADMASTER** may mail bulletins with additional or updated product information. Keep those bulletins with this manual and make hand written notes at the appropriate places in this manual referencing the updated information.





FOLLOW ALL LOCKOUT/TAGOUT PROCEDURES AS DEFINED IN THIS MANUAL, AS WELL AS WELL AS DEFINED BY YOUR SPECIFIC SHOP (EMPLOYER) AND OSHA! FAILURE TO HEED THIS WARNING OF DANGER MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.



YOU MUST NOT SERVICE, MAINTAIN, OR REPAIR THE EXCEL UNLESS:

YOU ARE QUALIFIED BY TRAINING AND EXPERIENCE IN THE SAFE *OPERATION* OF THIS MACHINE.

TRAINING INCLUDES COMPLETE KNOWLEDGE OF YOUR EMPLOYER'S WORK RULES, ALL GOVERNMENTAL REGULATIONS, AND MANUFACTURER'S OPERATOR'S MANUAL RELATIVE TO THIS MACHINE'S SAFE USE.

A SERVICE TECHNICIAN WHO IS UNTRAINED IN THE SAFE *OPERATION* OF THE EXCEL SUBJECTS HIMSELF/HERSELF AND OTHERS TO SERIOUS INJURY OR DEATH.



YOU MUST NOT SERVICE, MAINTAIN, OR REPAIR THE EXCEL UNLESS YOU ARE THOROUGHLY KNOWLEDGEABLE OF YOUR SHOP'S (YOUR EMPLOYER'S) DETAILED LOCKOUT/TAGOUT POLICIES AND PROCEDURES.

LOADMASTER HAS INCLUDED THE OUTLINE OF A SKELETON, BARE BONES LOCKOUT/TAGOUT PROCEDURE IN THIS MANUAL (SEE TABLE OF CONTENTS). IT IS THE RESPONSIBILITY OF THE OWNERS, SUPERVISORS, MAINTAINERS, AND OPERATORS OF THE EXCEL TO FULLY DEVELOP A "DETAILED" LOCKOUT/TAGOUT PROCEDURE AND POLICY THAT SUITS YOUR SHOP'S SPECIFIC CIRCUMSTANCES.



NEVER OPERATE, MAINTAIN, OR REPAIR THE VEHICLE OR THE EXCEL WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS! WORKERS UNDER THE INFLUENCE PRESENT A HAZARD TO THEMSELVES AND OTHERS AND CAN CAUSE SERIOUS INJURY OR DEATH.

DO NOT OPERATE, MAINTAIN, OR REPAIR THE VEHICLE OR THE EXCEL UNLESS YOU ARE ALERT, CLEAR-HEADED AND WELL RESTED. IF YOU ARE FEELING TIRED, DO OTHER WORK CHORES THAT DO *NOT* REQUIRE YOU TO BE NEAR A HYDRAULICALLY-POWERED MACHINE.



DO NOT WEAR WATCHES, RINGS, AND JEWELRY WHILE WORKING WITH MECHANICAL OR ELECTRICAL EQUIPMENT. DO NOT WEAR LOOSE CLOTHING THAT COULD ENTANGLE YOU INTO MOVING OR ROTATING COMPONENTS. THESE TYPES OF THINGS WILL BE HAZARDOUS AND COULD CAUSE SERIOUS INJURY OR DEATH IF WORN NEAR MOVING MECHANICAL OR HYDRAULIC MACHINE PARTS.



DO WEAR PERSONAL PROTECTION ITEMS SUCH AS HARD HATS, SAFETY GLASSES (EYE PROTECTION), HEAVY GLOVING, AND SAFETY SHOES WHEN OPERATING OR MAINTAINING THE EXCEL OR CHASSIS. OPERATORS SHOULD WEAR VESTING THAT HAS A BRIGHT COLORATION (ORANGE) AND REFLECTIVE CHARACTERISTICS FOR DAY/NIGHT VISIBILITY. FOLLOW ALL OF YOUR EMPLOYER'S REQUIREMENTS FOR PERSONAL PROTECTIVE ITEMS.

PREVENTIVE MAINTENANCE... THE "SAFETY SYSTEMS" AND OVERALL UNIT

1 CHECK THE BACKUP ALARM TO BE IN GOOD WORKING CONDITION WHEN TAILGATE RAISES UPWARD...IT MUST "SOUND" OFF
Check DAILY

2 CHECK THE BACKUP ALARM TO BE IN GOOD WORKING CONDITION WHEN CHASSIS SHIFTS INTO REVERSE IT MUST SOUND
Check DAILY

3 CHECK THAT THE "SIGNAL BUZZERS" TO BE IN GOOD WORKING CONDITION; ON BOTH SIDES
Check DAILY

4 CHECK THAT THE SIDE STEPS ARE SECURELY ANCHORED AND FLAT AND NOT IMPACT DAMAGED
Check DAILY

5 CHECK THAT THE VARIOUS LIGHTS AND SIGNALS NEEDED FOR SAFE STREET TRAVEL ARE IN GOOD WORKING ORDER
Check DAILY

6 CHECK THAT THE IN-CAB PILOT LITE FOR "TAILGATE RAISED" IS FUNCTIONING (ILLUMINATING) CORRECTLY
Check DAILY

7 CHECK THAT THE HAND-HOLD GRAB HANDLES ARE SECURELY ANCHORED
Check DAILY

8 CHECK THAT THE BODY ACCESS DOOR'S LADDER, HINGES, AND LATCH ARE IN GOOD CONDITION AND FUNCTIONAL
Check DAILY

9 CHECK THAT ALL INFORMATIONAL AND SAFETY RELATED DECALS ARE IN GOOD, READABLE, AND CLEAN
Check DAILY

10 CHECK FOR ANY HYDRAULIC SYSTEM EXTERNAL LEAKS HYDRAULIC FLUID IS VERY FLAMMABLE
Check DAILY

11 CHECK THAT THE KNOBBED CONTROLS MOVE FREELY AND RETURN TO THEIR "NEUTRAL" POSITION FREELY
Check DAILY

12 CHECK THE PACKER AND THE TRUCK CHASSIS TO BE CLEAN AND FREE OF DEBRIS (PRESSURE WASH ONCE A MONTH)
Check/wash at least MONTHLY

13

14

15 CHECK THAT THE SUCTION LINE "GATE" VALVE IS FULLY OPEN
Check DAILY

16 CHECK THE CONDITION OF THE RETURN LINE FILTER
Check WEEKLY

17 CHECK THE CONDITION OF THE TAILGATE'S MAIN PIVOT HINGE...CHECK THE PINNINGS AND PIN RETENTIONS
Check MONTHLY

18 CHECK THE CONDITION OF THE TAILGATE LIFT CYLINDERS' PINS (4), AND PINNINGS AND PIN RETAINERS (BOLTS AND/OR COTTER PINS)
Check MONTHLY

19 CHECK THE WEAR PATTERN OF THE SLIDE BLADES SLIDER SHOEING
Check MONTHLY

20 CHECK THE CONDITION OF THE BODY-TO-CHASSIS MOUNTING PLATES, HARDWARE, SPRINGS
Check MONTHLY

21 CHECK THE EJECTOR BLADE'S SHOEING FOR WEAR
Check EVERY 6 MONTHS

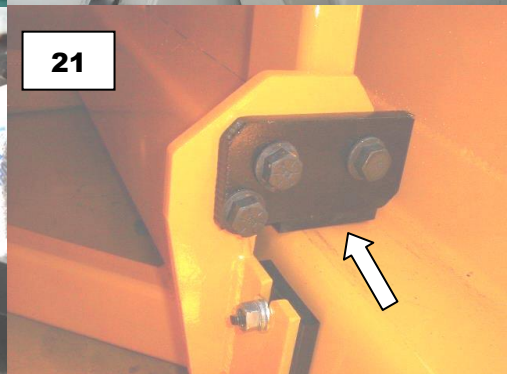
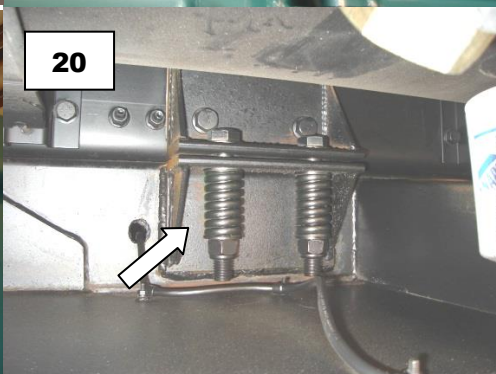
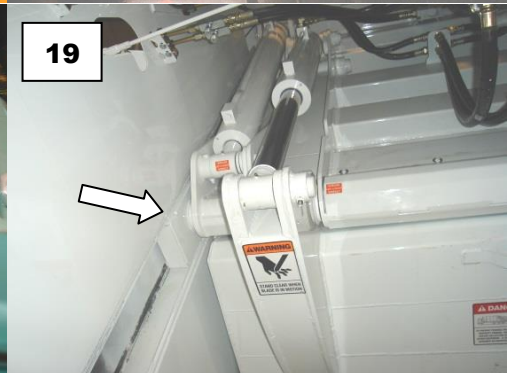
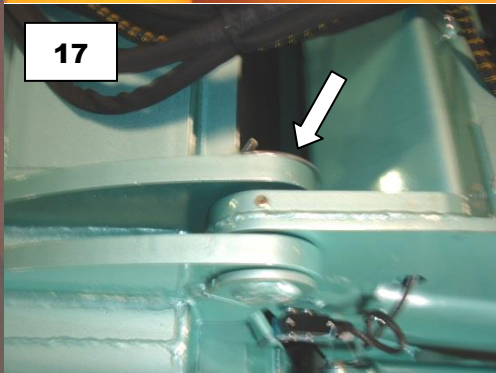
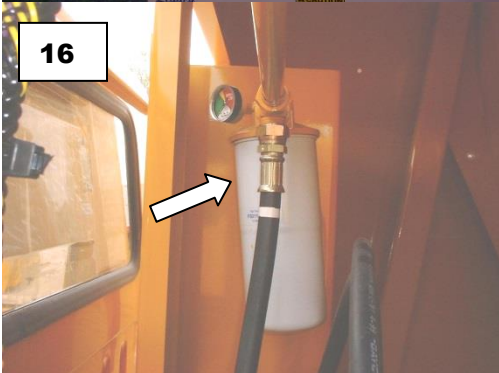
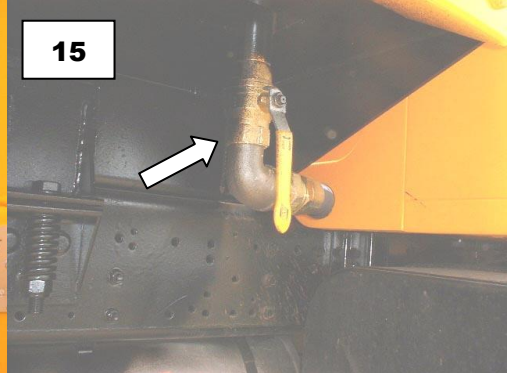
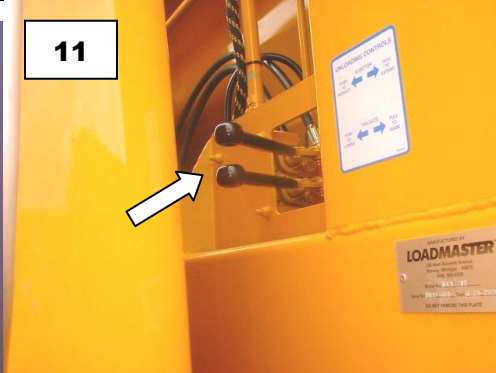
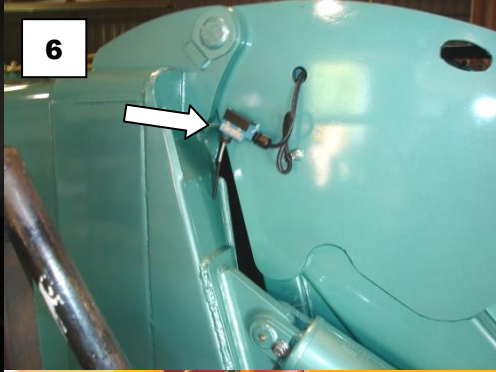
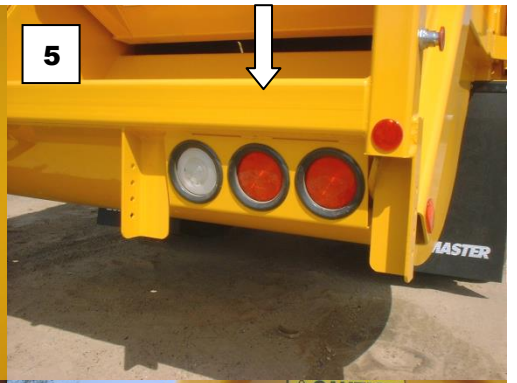
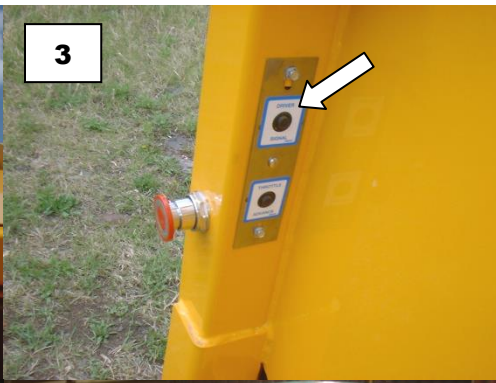
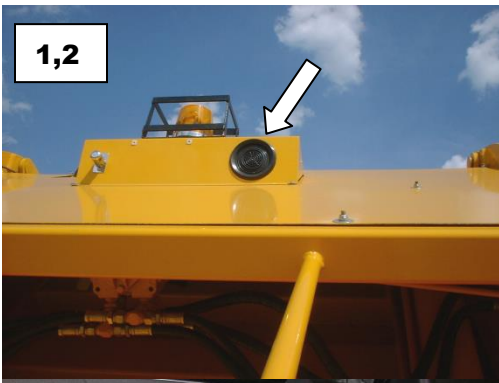
IF UNIT IS EQUIPPED WITH ANY OPTIONAL "CONTAINER LIFTING" MECHANISMS (SUCH AS THE OPTIONAL "2-10" ROOF MOUNTED REEVER) INVOLVING "CABLES"...THEN:

22 CHECK EACH CABLES "3-CLIP" ANCHORING TO BE SECURE AND IN GOOD CONDITION (ON THE BODY ROOF)
Check WEEKLY

23 CHECK THE CONDITION OF THE CABLE ITSELF
Check WEEKLY

24 CHECK THAT THE CABLE PROTECTING "THIMBLE" IS IN PLACE AND PARTICULARLY CHECK THAT CABLE IS IN GOOD CONDITION AT THE ANCHORING "THIMBLE" AREA
Check WEEKLY

25 CHECK ALL THE PINNINGS, SHEAVE AXLES, ETC ARE ALL SECURELY "RETAINED" AND IN GOOD CONDITION
Check WEEKLY



P-M... SAFETY SYSTEMS AND OVERALL

1 & 2 CHECK THE BACKUP ALARM TO BE IN GOOD WORKING CONDITION...EVERY DAY

The EXCEL has a back up alarm (grommet mounted) in the upper "light bar". This backup alarm is wired to sound *not only* with the transmission in reverse, but also whenever the tailgate raises up about a foot above fully closed. Repair this important system immediately if it does not "sound" when (a) the tailgate is raised upward about a foot *or* (b) when the chassis transmission is shifted into reverse. See the Table of Contents to locate the wiring schematic to aid in troubleshooting this system.

3 CHECK THE "DRIVER SIGNALLING BUZZERS" TO BE IN GOOD WORKING CONDITION...EVERY DAY

There are two "button switches". One switch is on the left side of tailgate and one on the right side of tailgate. They are labeled "driver signal". One "buzzer" is mounted under the dash and is controlled by either "driver signal" switch. Repair immediately. See Table of Contents for wiring schematics to aid in troubleshooting this signal system. The wiring scheme is for either of these switches to "make ground".

4 CHECK THE SIDE STEPS TO BE SECURELY ATTACHED, FLAT AND STRAIGHT, AND NOT IMPACT DAMAGED...EVERY DAY

LOADMASTER has these fabricated steel parts listed in the PARTS MANUAL. Repair or replace these steps as needed.

5 CHECK THAT THE VARIOUS LIGHTS AND SIGNALS NEEDED FOR SAFE STREET TRAVEL ARE IN GOOD WORKING CONDITION...EVERY DAY

Some of these lights are mounted to the EXCEL body and some are a part of the chassis. See the Table of Contents for wiring diagrams (if needed) to troubleshoot a wiring problem. Most often a simple "lamp" (bulb) replacement is needed.

6 CHECK THAT THE "GATE AJAR" IN-CAB PILOT LITE IS IN GOOD WORKING CONDITION...EVERY DAY

This "gate ajar" light will properly illuminate whenever the tailgate is raised up about 1 foot. There is a wobble-stick switch located at the tailgate to body hinge on driver's side of body (left side). This wobble-stick limit switch's job is to control the "gate ajar" pilot light. This pilot light is the only light mounted in the "rocker switch" panel in the cab. The wobble-stick limit switch is wired NC (normally closed) and is held open when the tailgate is almost fully down. See Table of Contents to locate the wiring schematic to help trouble shoot.

7 CHECK THAT THE GRAB HANDLES ARE SECURELY ANCHORED...EVERY DAY

Look for any evidence of structural cracks. Repair if needed.

8 CHECK THAT THE BODY ACCESS DOOR'S LADDER, HINGES, AND LATCH ARE IN GOOD CONDITION...EVERY DAY

The ladder's fasteners must be snug and the hinges not worn. Once a month a little grease on the slam-latch's bolt will assure a good action. Repair worn or failed parts

9 CHECK THE INFORMATIONAL DECALS, THE SAFETY DECALS AND OTHER LABELS TO BE READABLE, CLEAN, AND IN GOOD CONDITION...EVERY DAY

Make a photocopy of the decals shown in this manual. Walk around the EXCEL and circle in red any that need replacement. LOADMASTER has them in stock. Replace immediately.

If you repaint either mask-off the decals or order a complete fresh set from LOADMASTER. They are not particularly expensive.

10 CHECK THE HYDRAULIC SYSTEM FOR ANY EXTERNAL LEAKS...EVERY DAY

Hydraulic fluid is flammable and messy. It can cause people to lose good footing and fall... on the EXCEL and on the shop floor. Look for leaky connections, pump shaft leaks, valve leakage, etc and repair immediately.

Check the hoses for rubout spots that can later cause sudden hose failure. Check the steel tube runs for impact damage. Repair immediately.

11 CHECK THAT THE KNOBBED HAND LEVERS MOVE FREELY AND RETURN FREELY TO THEIR CENTERED-NEUTRAL POSITIONS...EVERY DAY

The two hand-levers at the body-mounted valve (tailgate raise/lower and ejector extend/retract) are spring-centered. Make sure the spring itself (by itself) can return the spool to neutral-centered position. If the operator must add his own force to get to neutral, the spool needs repair. The *option* hand levers of the *tailgate-mounted valve* are the same types of operation...spring-centered. The two controls for the hopper blades (sweep and slide) have knockout positioners that properly "hold" the spool shifted, then release when pressure rises to their pressure settings.

Troubleshoot and repair any spool operation that is not as described above.

12 CHECK THAT THE EXCEL ITSELF AND THE TRUCK CHASSIS ARE CLEAN AND FREE OF DEBRIS...MONTHLY

Actually make sure it is clean EVERY DAY. LOADMASTER suggests you pressure wash the EXCEL *at least* MONTHLY. A weekly wash is even better. Keeping your EXCEL clean will promote paint durability, significantly reduce your fire risks, reduce slippery hands and feet, and give the truck's operator a sense of order and professionalism. Also, all of the service/maintenance people will then have better working conditions. Stale garbage matter is foul and nasty.

Some debris will "blowby" the ejector blade settle on the cab's side of the ejector. Shovel this debris to the outside once a week. Always "park" the ejector blade fully rearward (towards the tailgate) before entering the body.

DANGER...Shutdown the diesel and place the ignition keys in your pocket before entering the body access door!

When pressure washing, do not *directly* "blast" the electrical components such as the various switches...you may water damage them.

When pressure washing, always keep both feet squarely on the *ground*. The EXCEL's painted steel surfaces will become extremely SLIPPERY when doused in soapy water!

Shutdown the diesel and place the ignition keys in your pocket before doing any cleaning.

. [Sec02-pg05]

Clean out all the debris from inside the cab. Do not allow the occasional "pack-rat operator" to have loose stuff inside the cab.

When pressure washing, pay particular attention to the under the floor area of the body where roadspray and tire-tossed sands can accumulate and then perpetually hold "water against steel" together causing corrosion. Pressure wash the inside of the EXCEL's lower body skirting so it is clean of accumulated dirt *so it can dry out*. The EXCEL has a thick undercoating that can be spot repaired if this undersurface is clean.

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15 CHECK THAT THE SUCTION LINE "GATE" VALVE IS FULLY OPEN...EVERY DAY

The lever of the full port ball valve must be fully parallel to the valves' body to be fully open. A closed or partially closed suction valve is really hard on the pump.

16 CHECK THE CONDITION OF THE RETURN FILTER...WEEKLY

Monitoring the condition of the return filter and replacing it's element is so important (and easy) that this hydraulic P-M topic is repeated here again. See the P-M...HYDRAULICS section for complete details on this. This P-M action is a real value!

17 CHECK THE CONDITION OF THE TAILGATE'S MAIN HINGE PINNING...MONTHLY

Check the left side and the right side. Check that the cotter key and washer are still in-place. Check the body-side and the gate-side fabricated structures for cracks in welds or parts. Check the pins themselves for wear patterns such as undercutting or notching. Repair any problems immediately.

18 CHECK THE CONDITION OF THE TAILGATE LIFT CYLINDERS' PINNINGS, PIN RETAINERS, AND STRUCTURE....MONTHLY

Check the left side and the right side. Check that the cotter keys and washers are still in-place. Check the pins themselves for unusual wear patterns like notching and undercutting. Check pin cap retainer bolts are still in-place and snug.

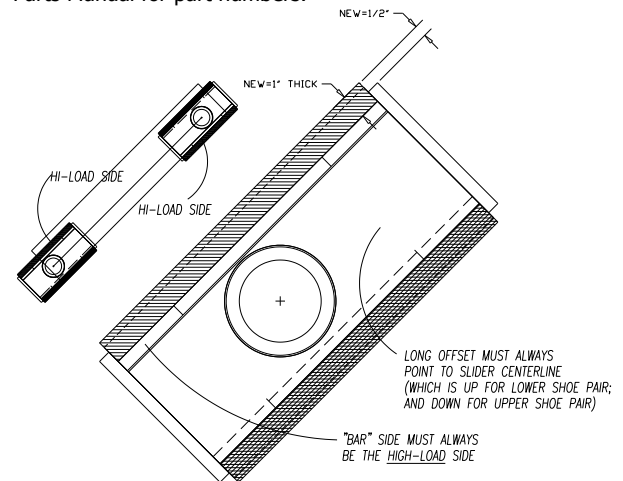
19 CHECK THE WEAR PATTERN OF SLIDER-BLADE SHOEING...MONTHLY

The uppermost surface of the lower shoe pair has the most load on it and will be the most important wear shoe to monitor. This is the shoe pair at the blades "pivot"... where the sweep pins to the slide blade.

These shoes (and the upper ones) have 1" thick plastic "wear pucks" when new. Replace the shoe when there is some area where the plastic shoe is worn to 1/8" of remaining plastic shoe *above steel*.

Don't operate the EXCEL when badly worn plastic slider shoes will allow destructive "steel to steel" slide contact. Plastic must slide on steel...not steel on steel.

The left-side lowershoe is the "same" as the left-side uppershoe, but flip-flopped end for end. The shoe's pivot is "offset" from true center...be sure to observe which way it is installed. The shoes on the left side are *not* the same as the shoes on the right-side. The hi-load plastic *must always* be supported by the side with the "bar-stock". See Parts Manual for part numbers.



20 CHECK THE CONDITION OF THE BODY TO CHASSIS MOUNTING PLATES, BRACKETS, HARDWARE , AND SPRINGS...MONTHLY

Check that the all the mount parts that anchor the EXCEL body to the truck chassis are in-place and in good condition. Check for any structural cracking.

21 CHECK THE EJECTOR BLADE'S SHOEING FOR WEAR PATTERN...MONTHLY

The shoe that sees the most load is the upper-shoe. It is the one that is captured by the retainer cap held on by three 1/2" flange head bolts. When this shoe is "new", it is 1-1/4" thick. Replace this shoe when there is only about 1/4" of plastic shoe showing below the 3-bolt retainer cap. When new, 3/4" of plastic is exposed beneath the lower edge of 3-bolt retainer cap.



REMINDER... BEFORE DOING ANY OF THE P-M ACTIVITIES...READ AND UNDERSTAND ALL THE SAFETY PRECAUTIONS GIVEN THROUGHOUT THIS ENTIRE OPERATION AND MAINTENANCE MANUAL!

PREVENTIVE MAINTENANCE... LUBRICATION

GREASING THE "ZERKS"...

1 MAIN WRIST PIVOT PIN OF SWEEP TO SLIDER BLADES (2 ZERKS)
Grease WEEKLY

2 SWEEP CYLINDERS RODSIDE PIN AT SWEEP BLADE (2 ZERKS)
Grease WEEKLY

3 SWEEP CYLINDERS BASESIDE PIN AT SLIDER BLADE (2 ZERKS)
Grease WEEKLY

4 SLIDER CYLINDERS RODSIDE PIN (2 ZERKS)
Grease WEEKLY

5 SLIDER CYLINDERS BASESIDE PIN (2 ZERKS)
**Grease every 6 MONTHS...remove
uppermost sheetmetal cover for access to these**

6 CONTROLS RODS PLASTIC BEARING BLOCK (4 ZERKS)
Grease WEEKLY

7 TRACK CHANNELS FOR SLIDER SHOES (BRUSH-ON)
Grease MONTHLY

8 UPPER AND LOWER PINS OF TAILGATE LIFT CYLINDER (4 ZERKS)
Grease WEEKLY

9 ACCESS DOOR LATCH'S SLAM BOLT
Grease MONTHLY (or spray lube it)

10 TAILGATE HINGE TO BODY (2 ZERKS)
Grease MONTHLY

11

12

13 2-10 REEVER *OPTION* "MULTIPLE" GREASE ZERKS
Grease MONTHLY

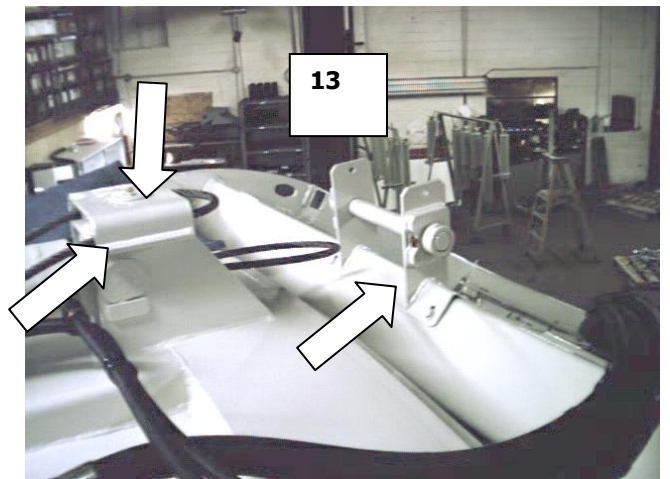
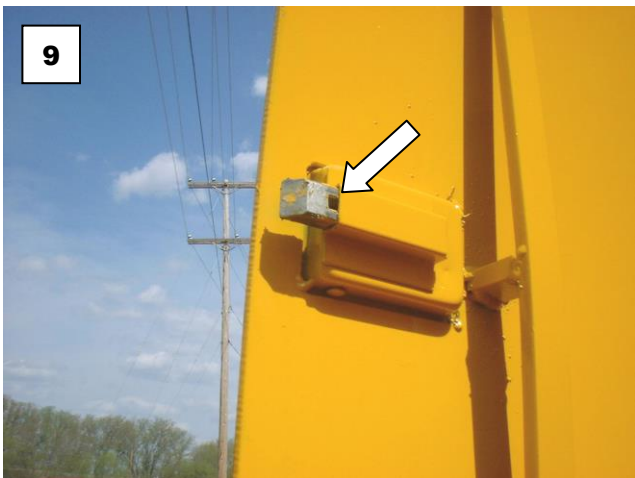
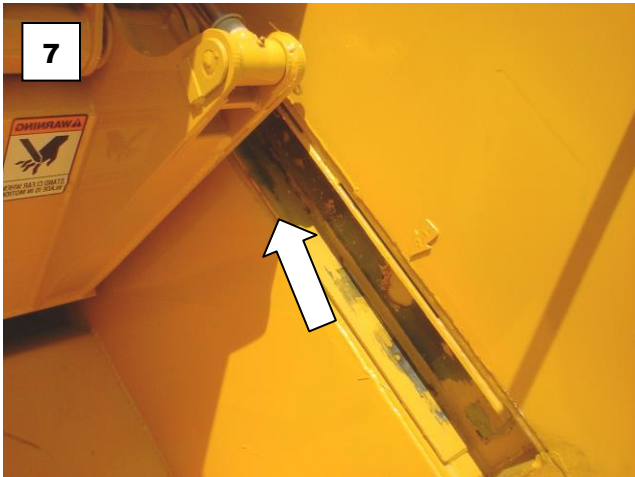
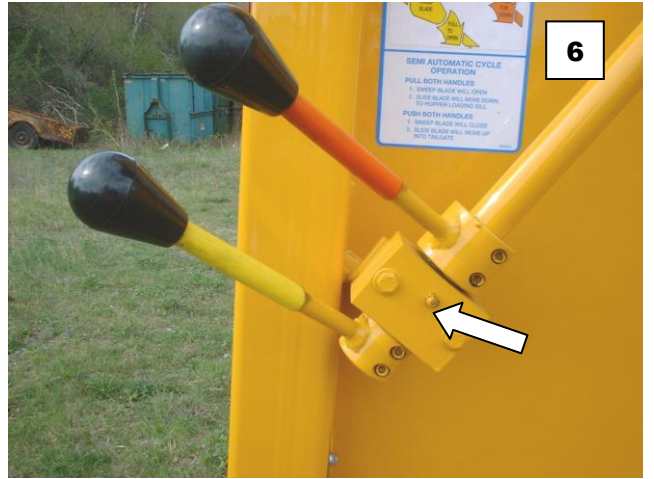
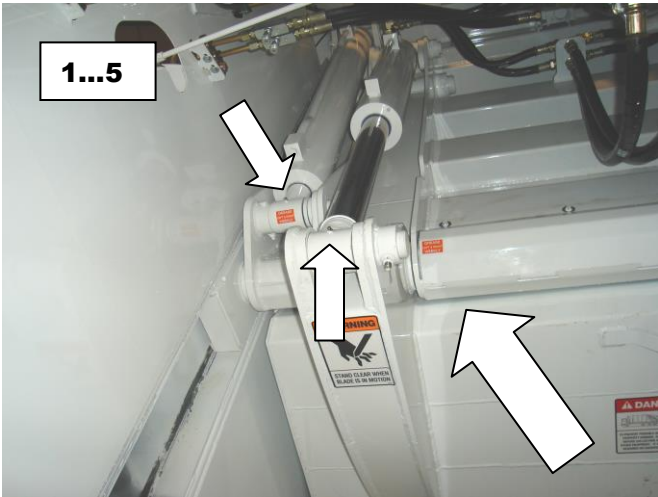
14 ROLL BAR *OPTION* "MULTIPLE" GREASE ZERKS
Grease MONTHLY

OTHER LUBRICANTS...

OVERHAUL THE HYDRAULIC FLUID ONCE EVERY TWO YEARS, OR SOONER IF CONDITIONS REQUIRE.
USE A BRAND-NAME HYDRAULIC FLUID IN **AW46 GRADE**.

This specification is a modern, "true" hydraulic fluid that has de-emulsifiers, anti-oxidation, controlled lubricity and a complete additive package tuned for hydraulic system durability.

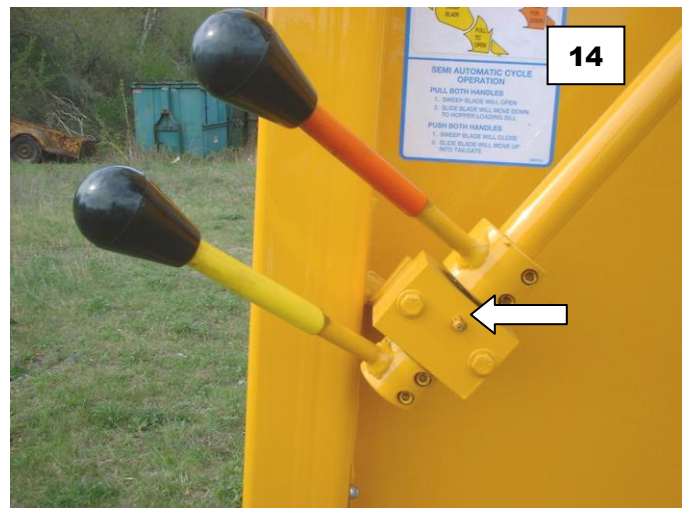
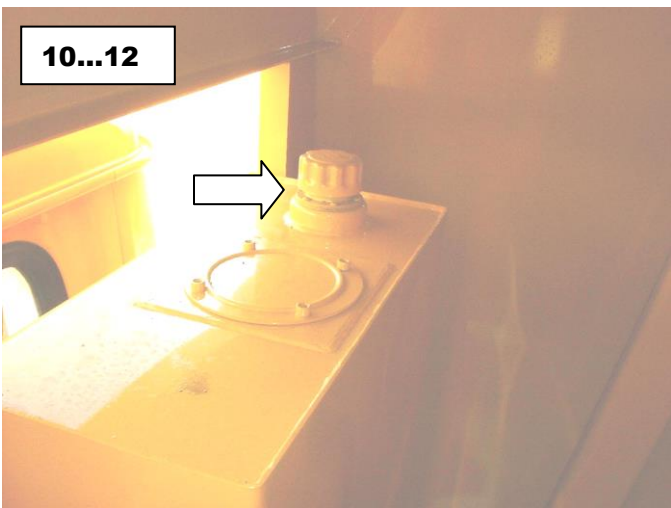
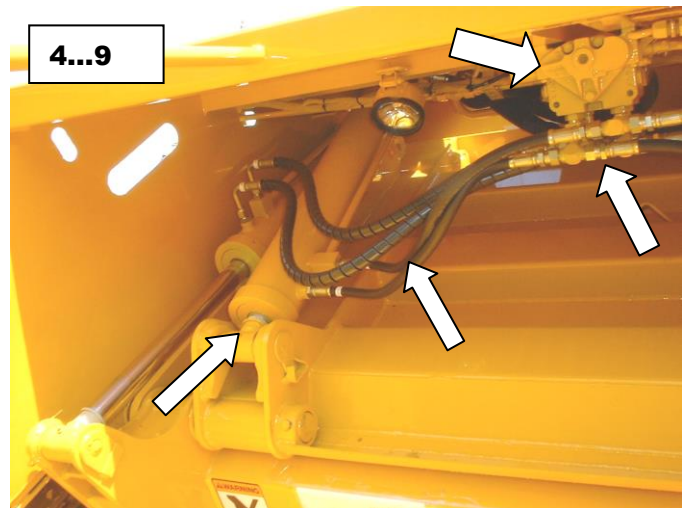
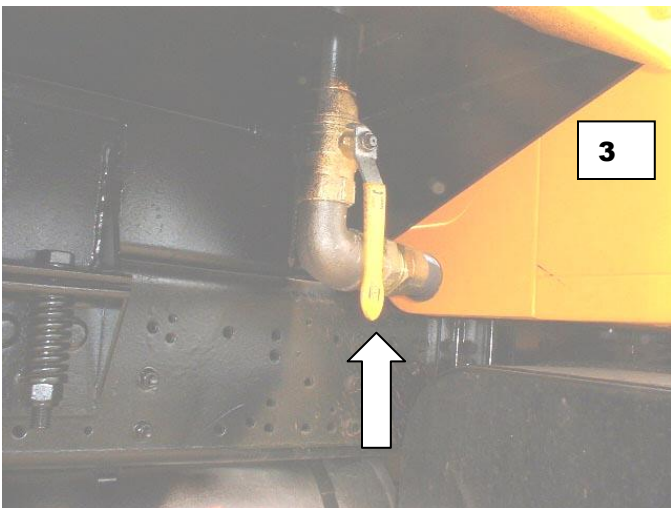
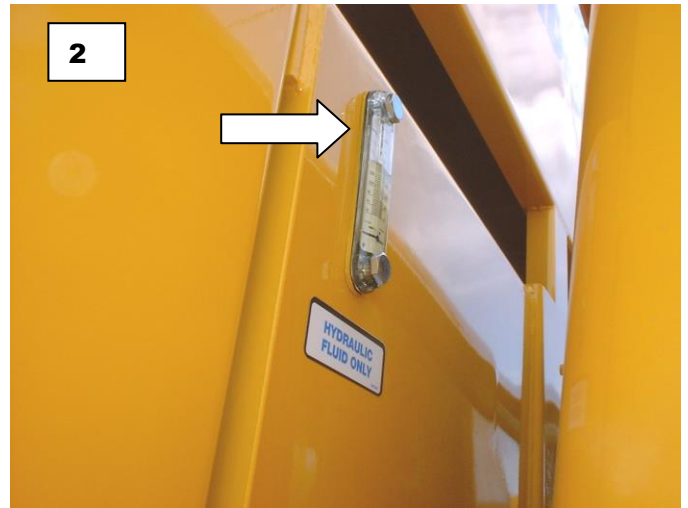
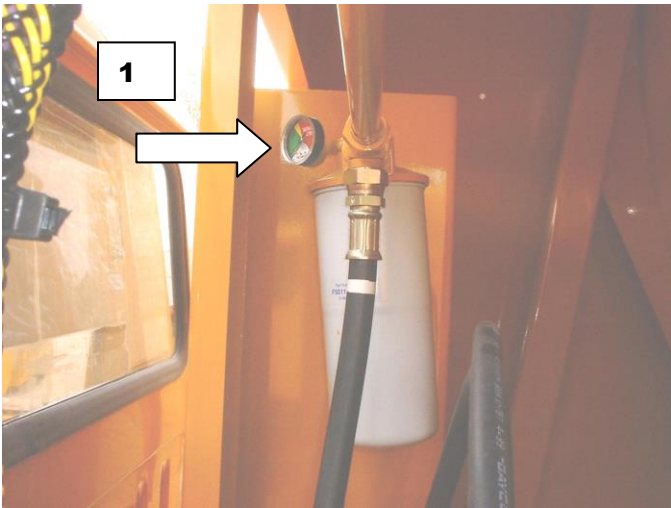
- Always replace the hydraulic fluid if it appears milky (entrained water).
- Always replace your hydraulic fluid *whenever* you are installing a new pump (along with a new return filter).
- Always replace the fluid after a "catastrophic" pump failure (along with new return filter and new suction strainer AND doing a "clean-up" procedure *first*).
- Always install a new suction screen (in-tank. or remove old suction strainer and thoroughly clean old one) and install new return filter element *whenever* you do replace old hydraulic oil with new.



PREVENTIVE MAINTENANCE... THE HYDRAULICS SYSTEM

- 1 CHECK CONDITION OF RETURN FILTER
Check WEEKLY
- 2 CHECK THE TANK'S FILL LEVEL
Check DAILY
- 3 CHECK THAT THE SUCTION LINE VALVE IS OPEN
Check DAILY
- 4 CHECK THE "PLUMBING" FOR ANY EXTERNAL LEAKS
Check DAILY
- 5 CHECK THE PUMP AND VALVES FOR ANY EXTERNAL LEAKAGE
Check DAILY
- 6 CHECK THE ROD CYLINDERS FOR EXTERNAL LEAKAGE
Check DAILY
- 7 INSPECT THE STEEL TUBES FOR DAMAGE/LOOSE CLAMPS
Check DAILY
- 8 CHECK THE FIRE EXTINGUISHER TO BE HAVE FULL CHARGE
Check DAILY
- 9 INSPECT HOSES FOR ABRASIONS, RUB SPOTS,ETC
Check DAILY
- 10 REPLACE THE IN-TANK SUCTION STRAINER
Yearly
- 11 REPLACE THE TANK'S FILLER/BREATHER
Yearly
- 12 REPLACE THE HYDRAULIC FLUID
Every two years
- 13 PRESSURE WASH THE ENTIRE UNIT
Monthly
- 14 GREASE THE CONTROL RODS PLASTIC BEARINGS
Weekly
- 15 IF PTO EQUIP'D...CHECK THAT THE BOLTINGS THAT ANCHOR THE PTO TO THE TRANSMISSION ARE TIGHT. CHECK ALSO THAT THE BOLTING'S THAT HOLD THE PUMP TO THE PTO ARE ALSO TIGHT AND SECURE.
Monthly
- 16 IF CRANKSHAFT DRIVEN PUMP...CHECK THAT THE PROP SHAFT BOLTINGS ARE TIGHT AND SECURE AT BOTH ENDS...BOTH THE CRANKSHAFT AND THE PUMP YOKE.
Weekly

HYDRAULIC FLUID IS VERY FLAMMABLE. THE RISK OF A HYDRAULICS RELATED FIRE CAN BE REDUCED BY ATTENDING TO ANY LEAKAGE IMMEDIATELY, PRESSURE WASHING ONCE A WEEK, CLEANING OUT THE DEBRIS THAT BLOWS BY THE EJECTOR (INSIDE OF THE BODY TO THE FRONT SIDE OF THE EJECTOR BLADE). CARRY A FULLY CHARGED FIRE EXTINGUISHER ON-BOARD AND TRAIN YOUR OPERATOR FOR A "PLAN OF ACTION" IN CASE A FIRE DOES HAPPEN.



P-M... HYDRAULIC SYSTEM

1 CHECK CONDITION OF RETURN FILTER...ONCE A WEEK

The EXCEL is equipped with a 5-micron/25 PSI bypass return line filter. The element is a "in-tank" style and is LOADMASTER P/N (see parts manual).

All EXCEL's have a condition indicator attached to the filter's head casting. To check the condition of the return filter, follow this procedure.

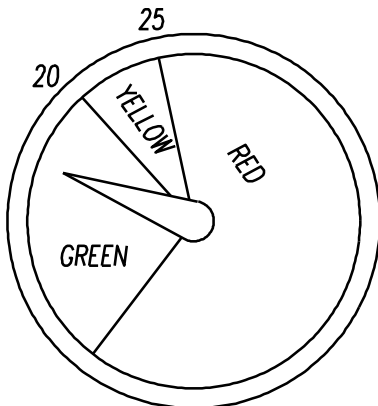
Checking procedure:

- 1- Diesel running; Transmission in Neutral; Park Brake applied on; PTO engaged on; Throttle Rocker off...
- 2- Using the chassis foot throttle, raise the diesel's RPM to about 1400 RPM and hold steady as you can
- 3- Turn your head around and look read the condition indicator.

The face of the condition indicator is "zoned". The **green zone** is 0-20 PSI of "pressure drop" across the filter. The filter has additional dirt-holding capacity available and you do not need to replace the filter element. If the pointer needle is close to going into yellow, but still green, change out the filter now.

The **yellow zone** is 20-25 PSI of pressure drop and you *need to change out the filter now*. The filter is not yet in "bypass" but is very close to being so.

The **red zone** is something above 25 PSI. You have waited too long and now the filter is "bypassing". Change out the filter element right away.



Concepts worth understanding are *pressure drop*, *bypass* and *dirt holding capacity*. As the return filter does its job, it gradually collects more and more dirt on its media surface. The pressure drop across the filter will increase as the media loads up with dirt. This continues until the *pressure drop* is at 20 PSI and this is the point

at which the element is said to be at its *dirt holding capacity*. The element must now be replaced. If it is not replaced, it will continue to load up with contaminants and the pressure drop will rise to 25 PSI. The bypass valve built into the head casting will open and the filter is said to be in *bypass*.

When a filter gets to bypass it is allowing contaminants to travel freely throughout your hydraulic system. The EXCEL (all garbage packers) have components such as valve knockout positioners, valve spools, orifices, journal bearings that have some sensitivity to contamination.

Monitor the condition of this filter and replace it when indicated on the condition indicator.

There are other situations when you must changeout the return line filter.

Always install a new filter whenever you have replaced your old hydraulic fluid with fresh fluid.

Always install new filter as part of installing a new pump.

Always install a second new filter 40 hours of run time after installing the first new filter following a catastrophic pump failure. A catastrophic pump failure can cause large amounts of debris to be generated. This must be trapped out of the system or face the real possibility of more expensive trouble occurring again.

Install a new filter at least once per year even if the condition indicator is not indicating the need.

Change-out Filter Element Procedure:

- 1- Park ejector blade fully rearward towards (the tailgate).
- 2- Shutdown the diesel and place the ignition keys in your pocket.



Perform your shop's detailed LOCKOUT/TAGOUT procedure before entering the body area. Diesel must be shutdown and ignition keys in your pocket before entering the hopper area. NEVER ENTER THE BODY WITH THE DIESEL RUNNING.

- 3- Remove the six 5/16" dia capscrews and remove hex shaped cover.
- 4- Remove the hold-down spring and the bypass valve assembly. Remove the old filter element.
- 5- Install fresh filter element into the tank's welded in-place cannister. Replace bypass valve and hold-down spring.
- 6- Re-install hex housing cover and 6 fasteners; groove the big square section o-ring carefully.

[Sec02-pg11]

2 CHECK THE OIL TANK'S FILL LEVEL...DAILY

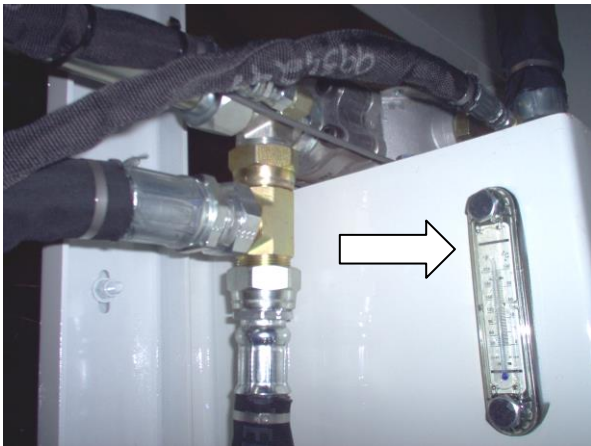
The tank has a sight level gauge that is used to confirm the correct amount of hydraulic fluid is in the system.

Checking procedure:

- 1- Retract the ejector blade fully forward towards cab.
- 2- Tailgate fully lowered closed and latched.
- 3- The slider cylinders must be fully retracted (slider fully up) and sweep cylinders fully retracted (sweep rotated up).
- 4- PTO disengaged (diesel can be on or off).
- 5- Now read the tank's fill level gauge. The amber colored hydraulic oil's level should be visible
- 6- Fill to the upper black line (with all cylinders retracted).

DO NOT OVERFILL THE TANK. Oil will spray out of the tank's filler/breather if overfilled.

Be certain to position the ejector, tailgate, and compact blades as described before sighting the gauge. This positions the "cylinders" to assure you do not overfill.



Use a name brand hydraulic fluid in an AW46 grade whenever you add fluid.

3 CHECK THAT THE SUCTION LINE VALVE (GATE VALVE) IS FULLY OPEN...DAILY

The leverarm of the full-port ball valve must be "parallel" to its body to be fully open

4 CHECK THE "PLUMBING" FOR EXTERNAL LEAKS...DAILY

Hydraulic fluid is flammable and messy. When on the shop floor or on the EXCEL it can cause injuries from slipping and falling. Inspect the EXCEL's various fittings, hoses, tubes for any evidence of oil escaping. Often by retorquing the hose end or fitting you can stop the leakage. Sometimes a hose or fitting will need to be replaced.

5 CHECK THE PUMP AND VALVES FOR EXTERNAL LEAKAGE...DAILY

The EXCEL uses "O-ring boss" ports on all the valve ports and the pump. Leakage here is usually going to be correctable by retightening the attached fittings. In some rare cases the o-ring may be knicked or extruded, replace the o-ring. The valves have a group of o-rings seals between their cast sections. If oil seems to be weeping out between sections, try retorquing (evenly) the valve tie-rod bolts first. The pump has a seal on its input shaft that could eventually weep oil. This must be replaced if this is happening.

The most difficult job in fixing a leak is identifying where the oil is *really* escaping. Gravity, road travel blowage, etc can fool you into misidentifying. If in doubt, wash area and keep looking.

6 CHECK THE ROD CYLINDERS FOR EXTERNAL LEAKAGE...DAILY

Rod cylinders have a bearing and seal system where the rod itself leaves the barrel. Repair if leakage occurs here.

7 INSPECT THE STEEL TUBE RUNS FOR DAMAGE AND LOOSE CLAMPING...DAILY

If a tube is impacted, it may become damaged. Check for this. Replace damaged tube so they do not rupture later.

8 CHECK FOR A FULLY CHARGED, ACCESSIBLE FIRE EXTINGUISHER...DAILY

Hydraulic fluid is flammable and could ignite if it sprays upon the diesel's hot exhaust surfaces.

9 INSPECT THE HOSES FOR ABRASIONS, RUB SPOTS,ETC...DAILY

Identifying possible hose weaknesses and repairing them promptly will reduce the possibility of a hose burst later on.

10 REPLACE THE IN-TANK SUCTION STRAINER...YEARLY

Near the floor of the oil-tank (submersed) is the suction filter/strainer. Whenever the tank has been drained of oil (for whatever reason), remove this filter and replace it (or clean it if in otherwise good condition). Make sure the 3-PSI bypass valve is "free" and will fully seat closed.

11 REPLACE THE TANK'S FILLER/BREATHER...YEARLY

There is a media inside this breather that will trap-out airborne dirt. This inexpensive unit is a "throwaway" part, don't bother trying to clean it...just get a new one from LOADMASTER and replace it. This breather is also your oil fill neck and has a wire basket to stop big stuff from falling into the tank when opened.

12 REPLACE THE HYDRAULIC FLUID...ONCE EVERY OTHER YEAR

This would be the minimum changeout frequency. A yearly changeout could be better. Modern hydraulic fluids have additive and lubricity packages that will deplete and wear down overtime. Always replace your hydraulic fluid when you are doing a "pump changeout" (along with a new return filter and suction filter).

Replace your hydraulic fluid if you had a "contamination experience" such as a seized valve spool or if it has a milky (water contaminated) appearance.

13 PRESSURE WASH THE UNIT TO REDUCE FIRE RISK...WEEKLY

Well, at least once a month. Allowing any hydraulic fluid to accumulate will make putting out any fires much more difficult and also be a possible fire origin spot. A clean EXCEL tends to be a better-maintained and safer EXCEL.

14 GREASE THE CONTROL RODS PLASTIC BEARINGS...WEEKLY

If a lot of mechanical drag exists in the controls for the valves that have the knockout positioners, it may cause them to operate erratically. A regular greasing also forces out (displaces) moisture that can attack the steel shafting (corroding and pitting), thereby causing even more drag. Sometimes, what is thought to be a hydraulics problem is really a mechanical control problem.

15 IF PTO EQUIPP'D...CHECK THAT THE BOLTING THAT ANCHOR THE PTO TO THE TRANSMISSION ARE TIGHT. CHECK THAT THE BOLTINGS THAT ATTACH THE PUMP TO THE PTO ARE TIGHT & SECURE.

Monthly

16 IF CRANKSHAFT DRIVEN PUMP...CHECK THAT PROP SHAFT'S BOLTS ARE TIGHT AND SECURE AT BOTH SIDES....THE CRANKSHAFT SIDE AND THE PUMP YOKE SIDE

Weekly



LOCKOUT/TAGOUT OVERVIEW

LOADMASTER includes this procedure as a bare-bones (skeleton) lockout/tagout procedure. Your shop will need to flesh-out this procedure out to suit your specific circumstances. Your shop needs to develop a policy that outlines when this procedure will be implemented; include all the lockout/tagout call-outs throughout this manual.

Many times throughout this manual your will see the expression (or similar)....**Shutdown the diesel, place the ignition keys in your pocket, and place a sign on the steering wheel which reads "DO NOT START".**

This means the following (at the minimum):

- 1- Be sure all the hydraulic control levers are in their centered-neutral positions.**
- 2- Place the vehicle transmission in neutral.**
- 3- Set the park brake to applied ON.**
- 4- Turn the PTO rocker switch to OFF.**
- 5- Turn the THRTL rocker switch to OFF.**
- 6- Shut down (off) the diesel.**
- 7- Place the vehicle ignition keys in your pocket.**
- 8- Place a sign on the steering wheel that says, "DO NOT START ENGINE".**
- 9- Chock the vehicle tires.**

The above 9 steps are a minimal, bare bones LOCKOUT/TAGOUT procedure.

LOADMASTER supplies the chained steering wheel sign with each unit shipped. Use plastic locking "ty-wraps" to attach the sign to the steering wheel (the kind that must be "cut off" to remove sign).

Your shop's fully detailed LOCKOUT/TAGOUT procedure will possibly include more steps than enumerated above.

**LOCKOUT
DO NOT START
ENGINE!**

5.3.1 ANSI LOCKOUT PROCEDURE

THE POWER SHALL BE SHUTOFF, THE IGNITION KEY REMOVED, AND A SIGN BE PLACED ON THE STEERING WHEEL, BEFORE AND DURING REPAIRS TO THE PACKER OR EJECTION PANEL OR BOTH, EXCEPT DURING MAINTENANCE TESTING.