

NEW HOLLAND 1431

REPAIR MANUAL



NEW HOLLAND

S E R V I C E

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SECTION 0 - SAFETY

PRECAUTIONARY STATEMENTS PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION", "WARNING", and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



CAUTION: THE WORD "CAUTION" IS USED WHERE A SAFE BEHAVIORAL PRACTICE ACCORDING TO OPERATING AND MAINTENANCE INSTRUCTIONS AND COMMON SAFETY PRACTICES WILL PROTECT THE OPERATOR AND OTHERS FROM ACCIDENT INVOLVEMENT.



WARNING: THE WORD "WARNING" DENOTES A POTENTIAL OR HIDDEN HAZARD WHICH HAS A POTENTIAL FOR SERIOUS INJURY. IT IS USED TO WARN OPERATORS AND OTHERS TO EXERCISE EVERY APPROPRIATE MEANS TO AVOID A SURPRISE INVOLVEMENT WITH MACHINERY.



DANGER: THE WORD "DANGER" DENOTES A FORBIDDEN PRACTICE IN CONNECTION WITH m A SERIOUS HAZARD.

FAILURE TO FOLLOW THE "CAUTION", "WARNING", AND "DANGER" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

Additional precautionary statements ("ATTENTION" and "IMPORTANT") are followed by specific instructions. These statements are intended for machine safety.

ATTENTION: The word "ATTENTION" is used to warn the operator of potential machine damage if a certain procedure is not followed.

IMPORTANT: The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.

SECTION 1

GENERAL INFORMATION

On New Holland equipment, left and right are determined by standing behind the unit, looking in the direction of travel.

SERIAL NUMBER

The serial number plate, 1, for the Model 1431 mower-conditioner is located on the left side of the trail frame.

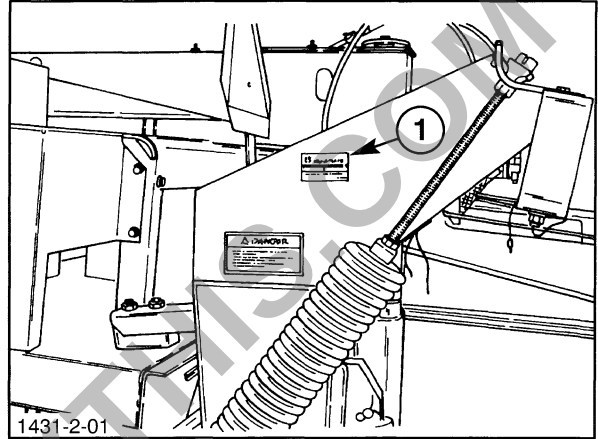


Figure 1-1

TOOLBOX

A convenient toolbox, 1, is provided, for storage of tools, a grease gun, and spare cutter bar parts. Use a hairpin cotter to keep the toolbox lid closed.

The toolbox can be removed from the unit by opening the lid, and removing the hairpin cotter clipped inside. Tip the toolbox up off of the support bracket. When reinstalling the toolbox, position the lip on the back over the top of the bracket, and tip the toolbox down over the clip. Reinstall the hairpin cotter to retain the toolbox.

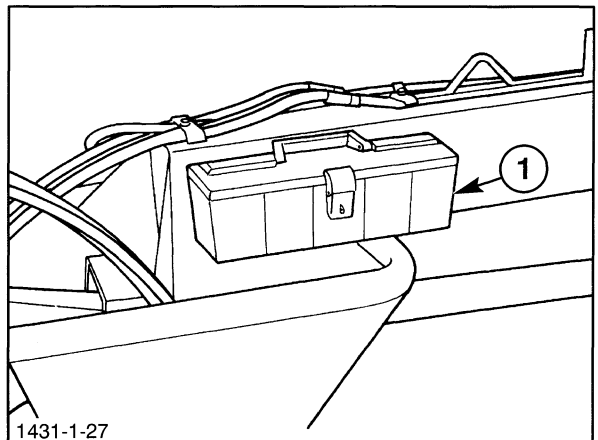


Figure 1-2

12. Hold the lower output shaft to apply a load to the gearbox, and rotate the input shaft several times in order to mark the gear contact patterns into the bluing on the pinion gears.

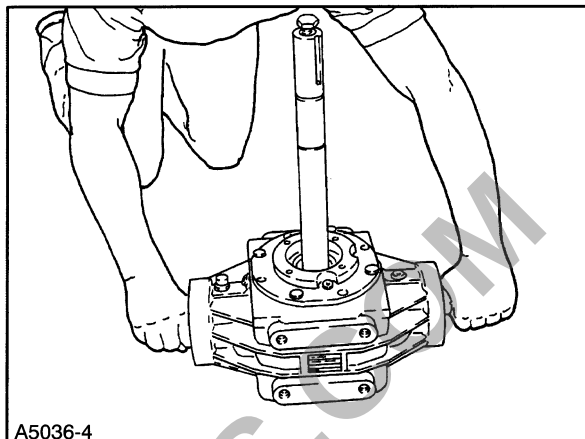


Figure 5-98

13. Install a dial indicator onto the gearbox, so that the indicator stem is engaged against the keyway on the conditioner drive shaft. Check the backlash between the conditioner drive gear and each pinion separately; while holding the lower output shaft securely against rotation, rotate the conditioner drive shaft back and forth to measure the backlash between the gears. Repeat the process by holding the input shaft, and recheck the backlash; it should be a similar amount. The proper backlash reading at the conditioner drive shaft keyway is 0.002" to 0.004"; this indicates a true backlash of 0.008" to 0.018" between the gears.

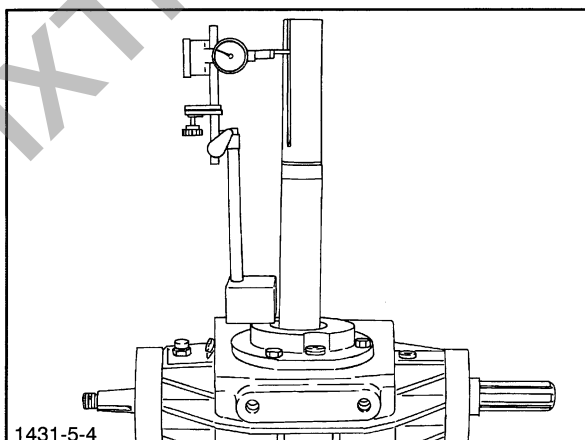


Figure 5-99

Remove the conditioner drive shaft bearing cap and shaft assemblies from the gearbox, and inspect the gear contact pattern on the pinion gears; the pattern should be 40% central-toe.

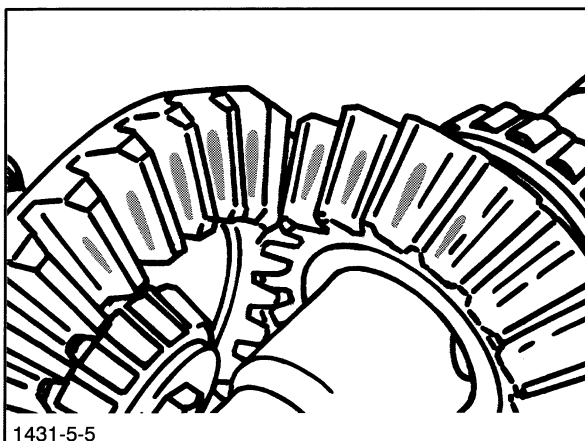


Figure 5-100

AUTO-LOK SLIDE LOCK

The 1431 is equipped with an Auto-Lok slide lock, 1, which automatically latches in the rearward position when pulled back. The primary PTO shaft may then be held with both hands to guide it onto the tractor shaft; as the yoke slides onto the tractor shaft, the slide lock collar springs forward to latch the PTO shaft to the tractor shaft.

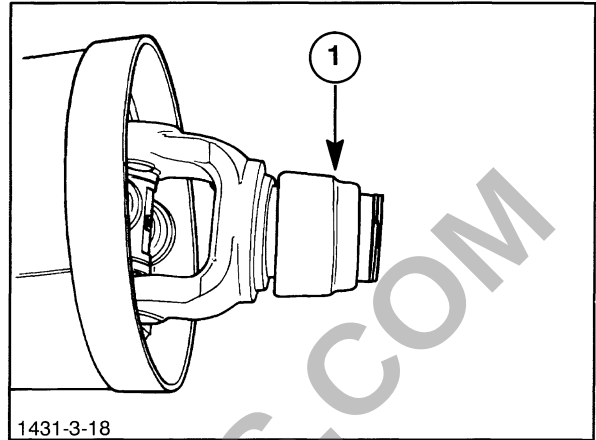


Figure 3-5

The Auto-Lok slide lock works as follows; as the collar is slid rearward, it tends to twist or cock slightly sideways, allowing a shoulder in the collar, 1, to catch on a ridge on the yoke, 2. As the yoke is slid onto the tractor shaft, and the pawls, 3, line up with the groove on the tractor shaft, four balls, 4, in the yoke are pushed outward by the end of the shaft. These four balls center the collar, causing the shoulder to disengage from the ridge, and the collar springs forward to lock the pawls in the tractor PTO shaft groove.

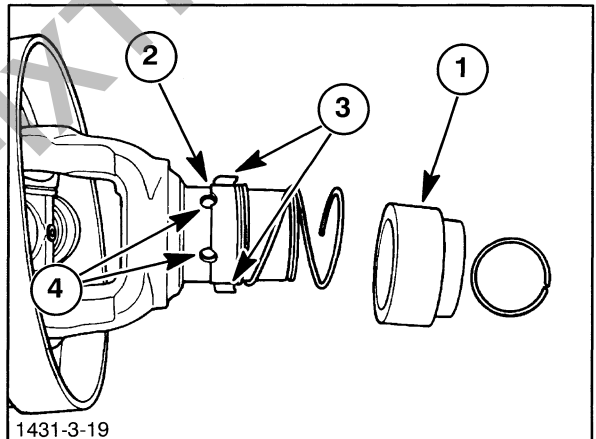


Figure 3-6

AUTO-LOK Slide Lock - Disassembly

1. Pull the slide lock collar rearward until it latches in place. Use a screwdriver or spring pick to remove the retaining ring, 1, from the end of the yoke.

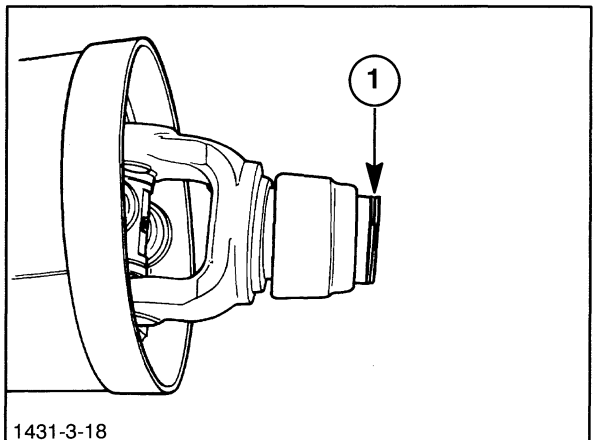


Figure 3-7

3. Remove the dipstick and observe the oil level. The oil level is correct when it is anywhere within the marked area at the end, 1, of the dipstick.

Maintain oil level using API GL 5 80W 90 gear oil.

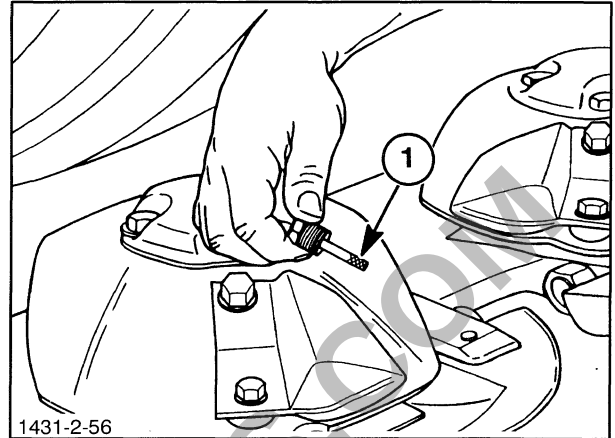


Figure 10-29

Module oil should be changed after the first 50 hours of use to remove any contaminants from the break-in process. After this, change the oil every 200 hours or yearly, whichever occurs first.

Raise the header and engage the header transport locks. Lock the header tilt cylinder in the 2 degree position.



CAUTION: BE SURE THAT THE HEADER TRANSPORT STOPS ARE ENGAGED BEFORE WORKING ON A RAISED HEADER.

Drain oil by removing allen socket head plug, 1, on bottom of module, through the hole in the bottom of the skid shoe. Apply sealant to the threads of the drain plug before reinstalling in the module. The modules hold 10 oz. (300 ml).

Refill the modules to the correct level using API GL5 80W90 gear oil.

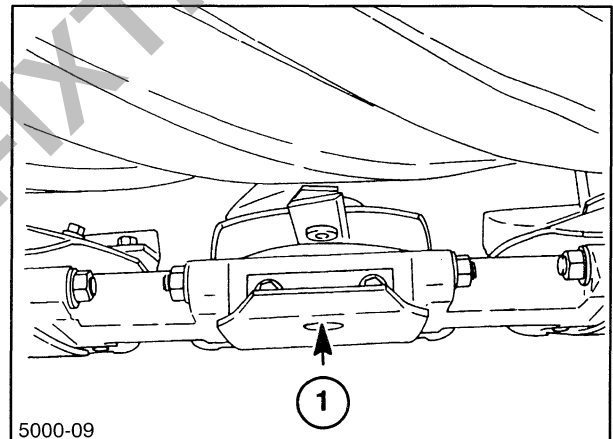


Figure 10-30

Attach the light assemblies, 1, to the mounts on the trailframe above the windrow shield pivots by positioning a fiber washer over the stem on the light, and insert the light through the mount. Install a flat washer, the white wire eyelet, 2, a flat washer, a lock washer and a nut and tighten securely.

Plug the red wire from the light into the red wire on the harness, and the black wire from the light into the brown wire on the harness.

Repeat for the opposite side.

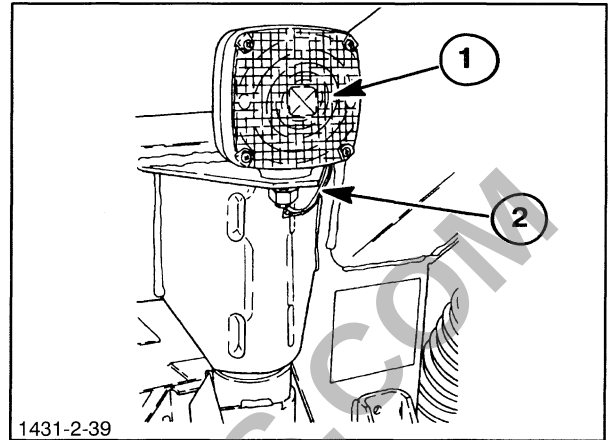


Figure 11-5

HIGH STUBBLE KIT

The high stubble kit is intended to provide a higher cutting height for clipping pastures, or for crops where a higher stubble height is desirable. Cutting height is approximately 5" at 2 degrees cutter bar tilt to approximately 3-1/2" at 10 degrees cutter bar tilt.

The high stubble kit consists of ten high skid shoes, 1. All ten skid shoes should be installed to minimize shoe wear and provide proper flotation of the cutter bar.

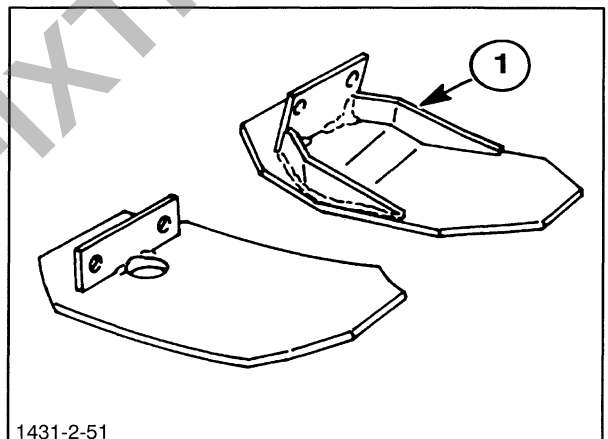


Figure 11-6

To install the high skid shoes, remove the standard skid shoes by removing the two cap screws, 1, and cupped lock washers at the back of each disc module.

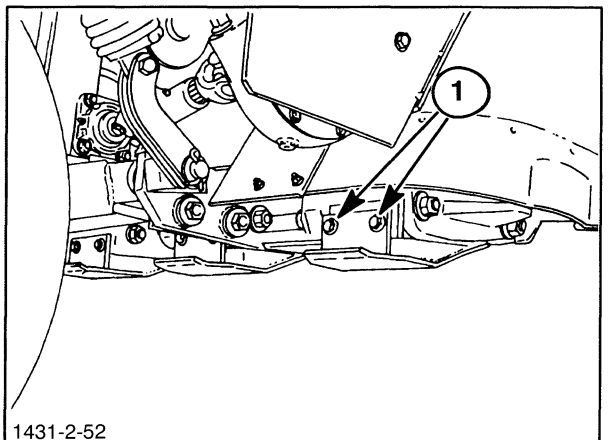


Figure 11-7

**CONDITIONER DRIVE GEARBOX -
DISASSEMBLY**

1. Place the gearbox on a table and remove the previously loosened sheave retaining bolt, 1. The drive pulley, 2, and the key can be removed from the input shaft.

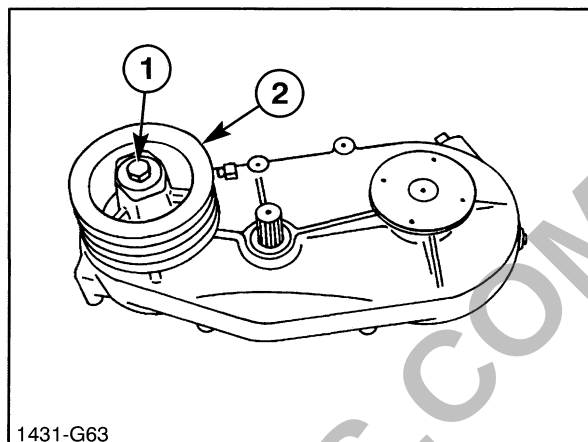


Figure 5-120

2. Remove the snap ring, 1, from the input shaft.

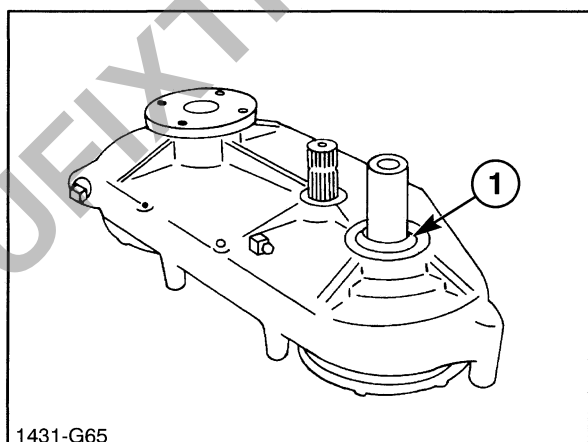


Figure 5-121

3. Remove the bolts retaining the cover, 1, and the bearing end caps, 2 and 3. Pry the cover and end caps away from the housing.

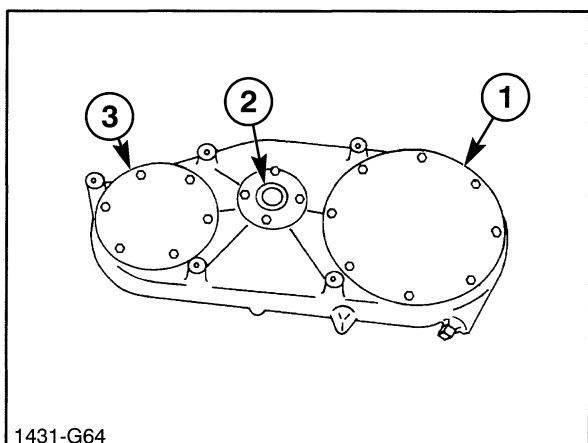


Figure 5-122

**TONGUE SWING CYLINDER -
REMOVAL**

1. Engage the tongue transport lock by rotating the transport lock bracket up and over (one half turn) so that the transport lock pin is spring loaded downwards. Shift the machine into the transport (center) position so that the transport lock pin engages in the trail frame.



CAUTION: BEFORE SHIFTING THE TONGUE, BE SURE THE MACHINE WILL CLEAR ANY OBSTRUCTIONS. BE SURE BYSTANDERS ARE CLEAR OF THE MACHINE WHEN SHIFTING THE TONGUE. AIR IN THE SYSTEM OR HIGH HYDRAULIC FLOW RATE CAN CAUSE ERRATIC OPERATION.

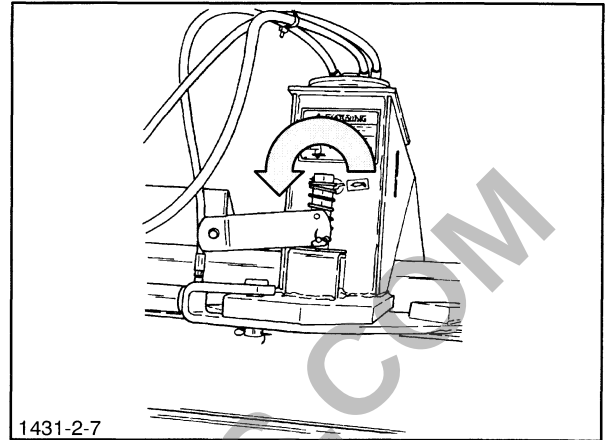


Figure 8-28

2. Cycle the tractor hydraulic valve into the float position to relieve all pressure in the tongue swing cylinder. Loosen and remove the hoses, 1, from the 90° elbows on the cylinder barrel. Remove the cotter pins and the clevis pins, 2, and lift the cylinder off the unit.

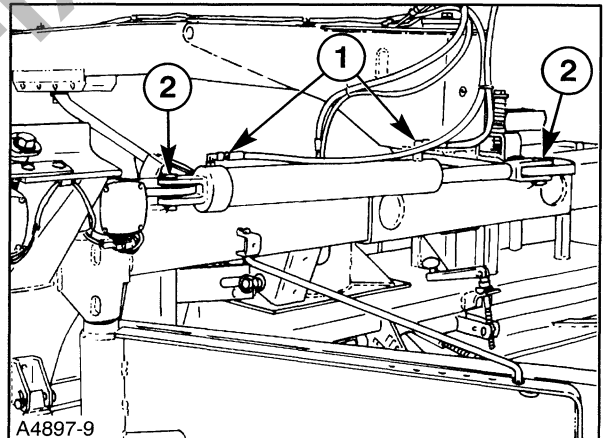


Figure 8-29

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4. Remove the cotter pin and nut, 1, from the lower output shaft. Remove the gear, 2, from the shaft. Press the shaft, 3, out of the bearing assemblies. Press the center shaft, 4, out of the gear and the gearbox housing in the direction of the arrow. The intermediate gear can now be removed through the lower gearbox access opening, 5. Press the input shaft and gear, 6, out of the gearbox housing.

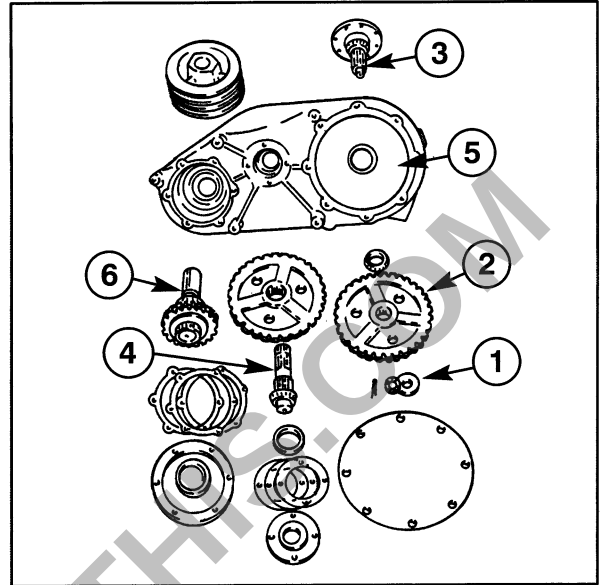


Figure 5-123

INSPECTION

1. Discard all seals and gaskets.
2. Replace all worn or pitted bearing cups and cones. Replace all bearings if gearbox is contaminated with debris from an internal failure.
3. Inspect all keyways and splines for damage or wear. Replace any damaged or worn assemblies.
4. Inspect all gears and gear teeth for wear and damage. Replace worn and damaged parts.
5. Inspect the gearbox housing and all bearing caps for wear or cracks. Replace all worn or damaged parts.

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