SPICER®

MODELS 30 and 44

INTERNAL TYPE

FRONT AXLE HUB LOK®

SERVICE MANUAL

SPICER AXLE DIVISION DANA DANA CORPORATION

SUBMERSION OR DEEP WATER FORDING

If the vehicle is exposed to water deep enough to cover the hubs of either the front or rear axles, it is recommended that the wheel ends be disassembled and inspected for water damage, and/or contamination daily.

Clean, examine and replace damaged parts if necessary, prior to relubricating and assembling the wheel end components. Pay particular attention to the bearings and the closed steering knuckle on the front driving axle.

In the event the gear carrier housing should become submerged in water, particularly if over the breathers, it is recommended that the hypoid gear lubricant be drained daily and internal parts be inspected for water damage and/or contamination.

Clean, examine and replace damaged parts if necessary prior to assembling the cover to housing and refilling with the specified hypoid lubricant.

CLOSED WHEEL END STEERING KNUCKLE LUBRICATION

The closed steering knuckle requires lubrication from a source other than the gear carrier assembly. Inboard tube seals contain the hypoid gear lube in the housing to provide an adequate lubricant level for the gears, bearings, etc. This then requires an additional lubricant level to be maintained outboard, in each steering knuckle, which can be observed by removing fill plugs on each knuckle. Adequate level would be to the bottom of the fill plug hole, when vehicle is observed to be in a normal horizontal position.

Recommended lubricant is an SAE 140 grade, multipurpose gear lubricant meeting the Mil-L-2105B Spec.

HUB/LOK LUBRICATION

The "O" ring is to be lubricated with *"Parker "O" Ring Lube"*.

It is recommended that the internal parts of the Hub/Lok, such as the gear teeth and splines, are to be lubricated with Moly XL hi-speed grease.

OPERATION

Hub/Loks are designed to eliminate unnecessary wear to front drive components. When the Hub/Loks are disengaged, the vehicle is in two-wheel drive (rear wheels only). The front wheels now turn freely on the spindle bearings.

This eliminates the rotating of the axle shafts, ring gear, pinion gear, and front prop shaft, which decreases tire wear and engine load.

CAUTION

Four-wheel drive, with Hub/Loks engaged, should only be used when operating conditions make it necessary. To avoid overloading the rear axle, never operate with transfer case in low range, four-wheel drive position, with Hub/Loks disengaged.

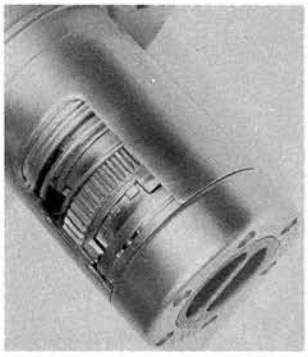
NOTE

Some residual driveline "wrap-up" will normally be present after four-wheel drive operation, and the Hub/Loks will be difficult to disengage unless the transfer case is shifted to two-wheel drive or neutral. Always shift to two-wheel drive or neutral prior to disengaging Hub/Loks. If transfer case is difficult to shift, driving the vehicle a few feet forward or backwards will normally remove some of the driveline wrap-up and ease shifting.

CAUTION

Hub/Loks should always be disengaged with vehicle on level surface and parking brake set to guard against vehicle moving while unattended.

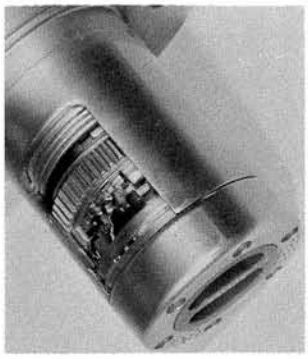
1005-1


1005-2

(Figure 1) To engage Hub/Loks turn knob to lock position as shown.

(Figure 2) With knob in *Lock* position, both the inner clutch gear and outer clutch gear teeth are meshed (engaged) as shown.

1005-3


1005-4

(Figure 3) To disengage Hub/Loks turn knob to *Free* position as shown.

(Figure 4) With knob in *Free* position, both the inner clutch gear and outer clutch gear teeth are now separated (disengaged), as shown.

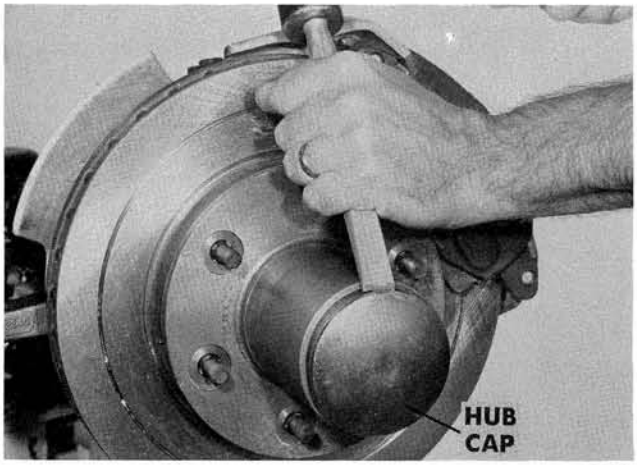
NOTE

On four wheel drive vehicles, all tires must be of equal size and ply rating and of same tread configuration, and are to be inflated with equal air pressure.

Refer to vehicle service manual for proper tire inflation.

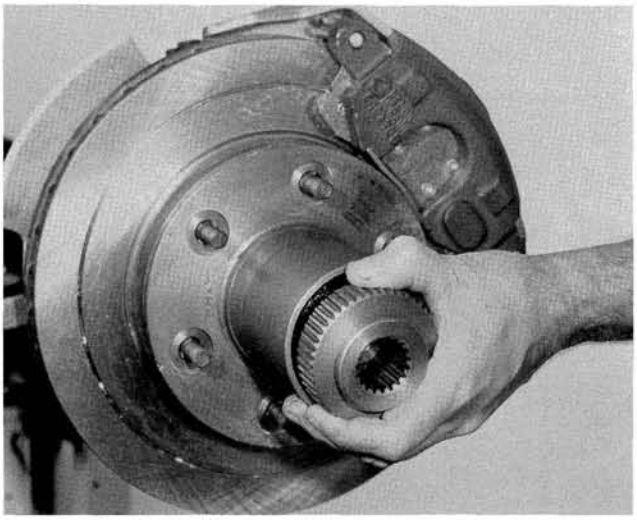
INSTALLATION

In the event the vehicle was *not* originally purchased with lock-out hubs, the following steps should be followed to convert from conventional hubs to lock-out hubs.



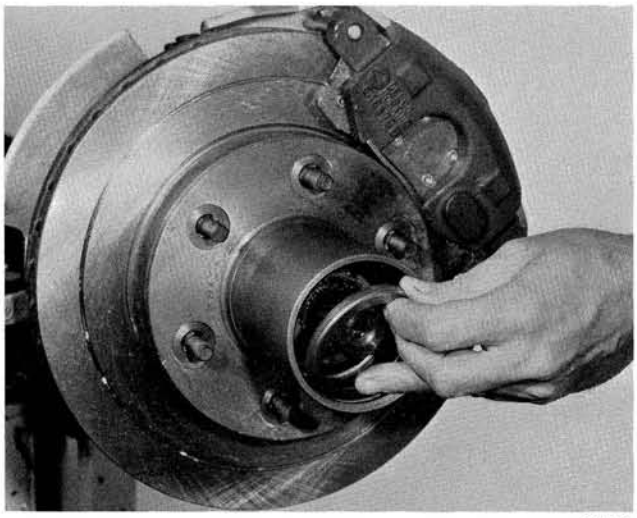
1005-5

(Figure 5) Remove hub caps and discard.



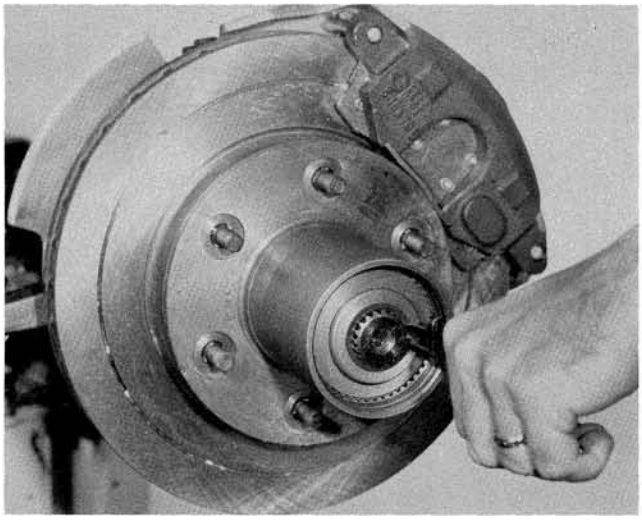
1005-7

(Figure 7) Remove drive gear and discard.



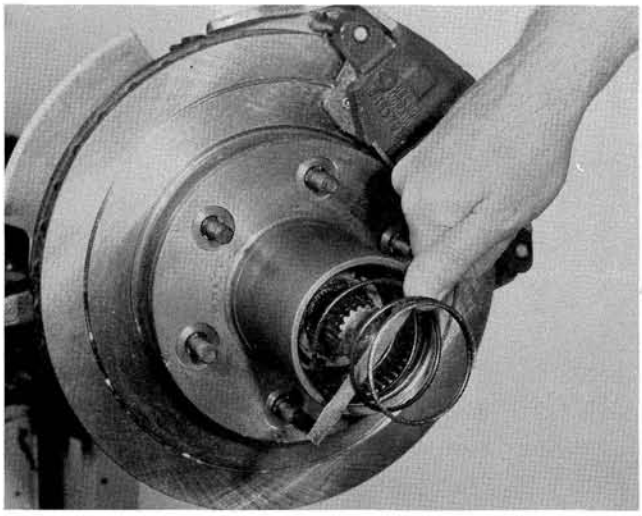
1005-9

(Figure 9) Remove spring retainer and discard.



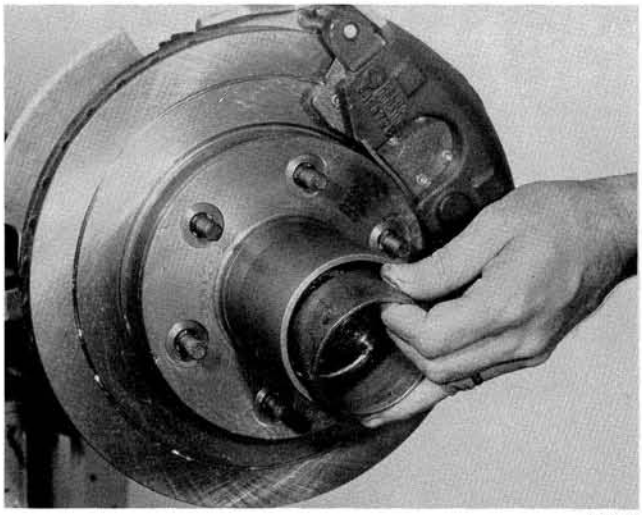
1005-6

(Figure 6) Remove snap ring and discard.



1005-8

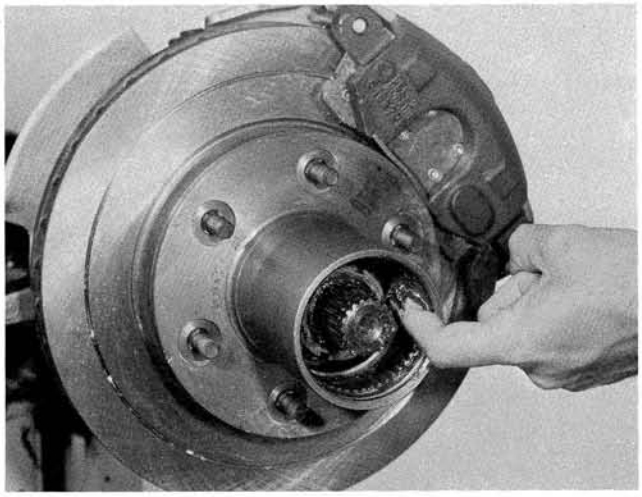
(Figure 8) Remove coil spring and discard.



1005-10

(Figure 10) Some early production axles are equipped with a spacer. Remove as shown and discard.

ASSEMBLY OF LOCK-OUT HUBS

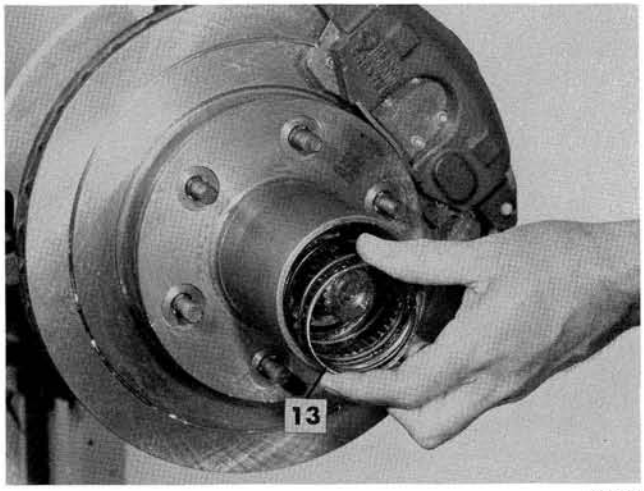


1005-11

(Figure 11)

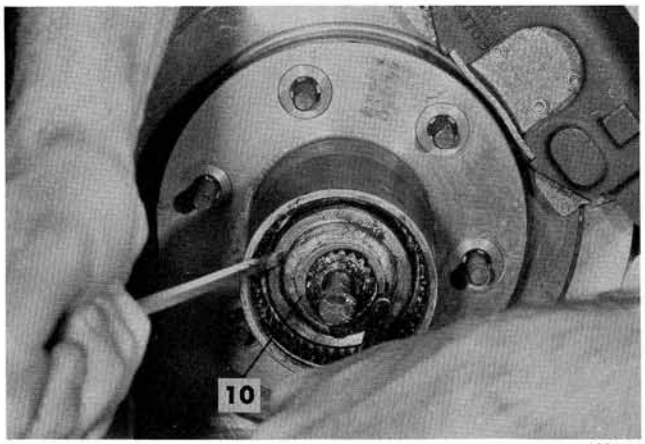
NOTE

Be sure all parts are lubricated with Moly X-L Hi-Speed Grease.



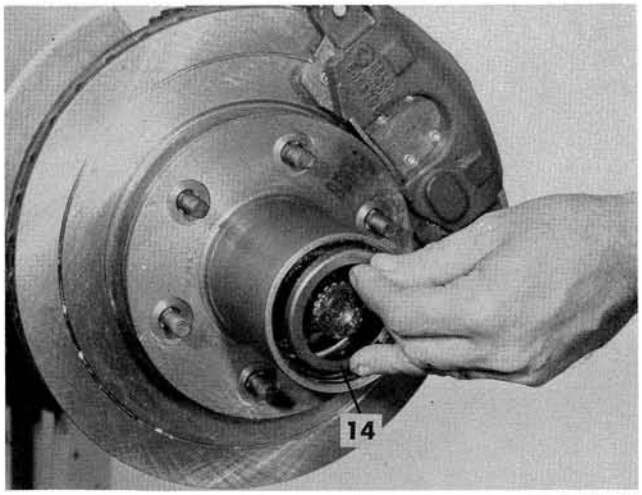
1005-13

(Figure 13) Assemble coil spring (13) with large end entering first.



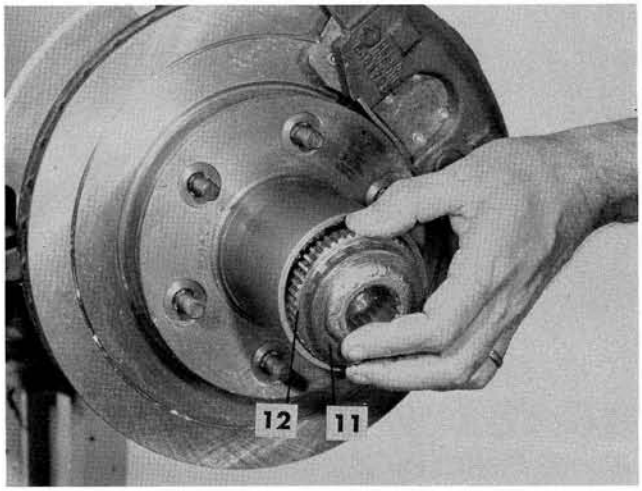
1005-15

(Figure 15) Assemble axle shaft snap ring (10). Push inward on gear, and if necessary, pull out axle shaft with bolt to allow clearance in groove for snap ring on the axle shaft. Be sure snap ring is fully seated in the snap ring groove of the shaft.



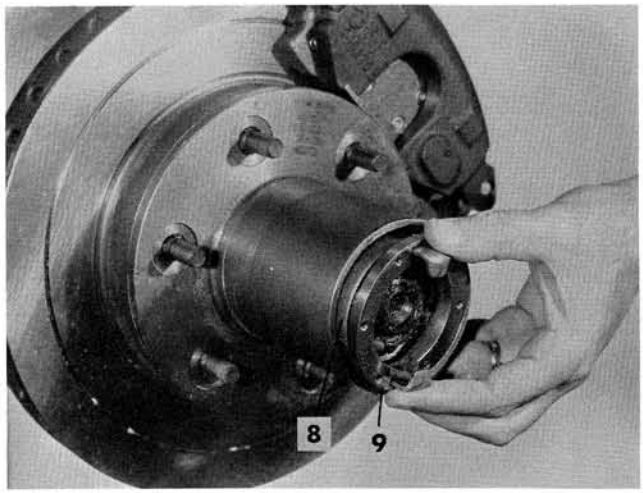
1005-12

(Figure 12) Assemble spring retainer (14), positioned as shown with recessed undercut area going in first. Be sure it seats against the bearing.



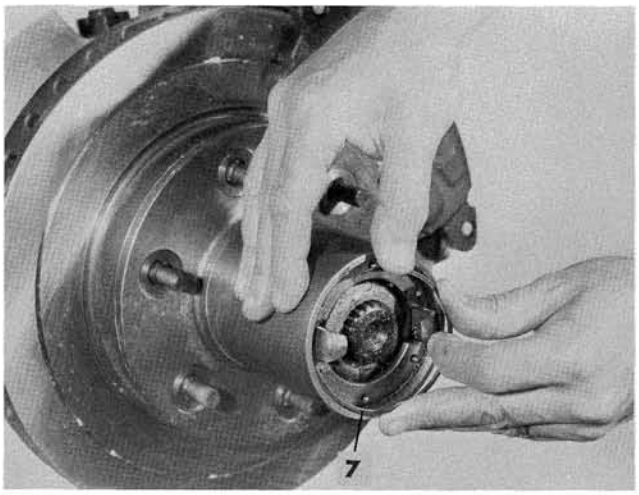
1005-14

(Figure 14) Assemble drive gear ring (12) and clutch gear (11). Notice that the teeth are meshed together in a locked position for easy assembly. It may be necessary to rock the hub back and forth for spline alignment. Keep the two gears in locked position.



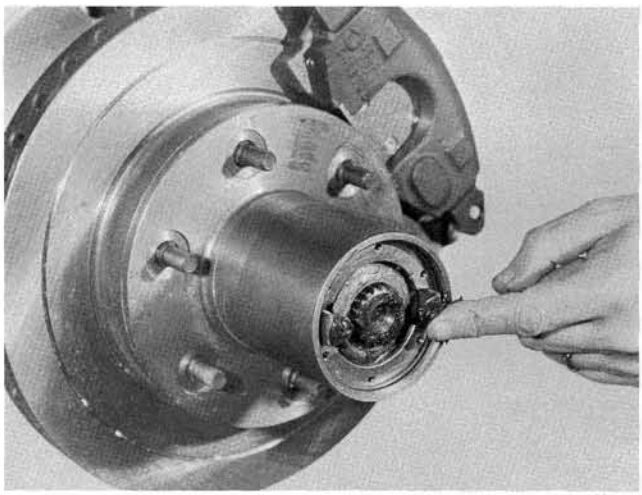
1005-16

(Figure 16) Assemble cam body ring (8 and 9) into clutch retainer and assemble into hub. (Continued on next page)



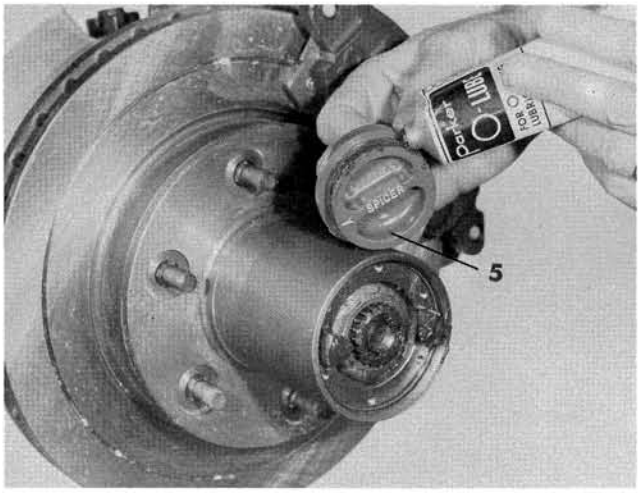
1005-17

(Figure 17) Assemble internal snap ring (7). Be sure snap ring is fully seated in the snap ring groove of the hub.



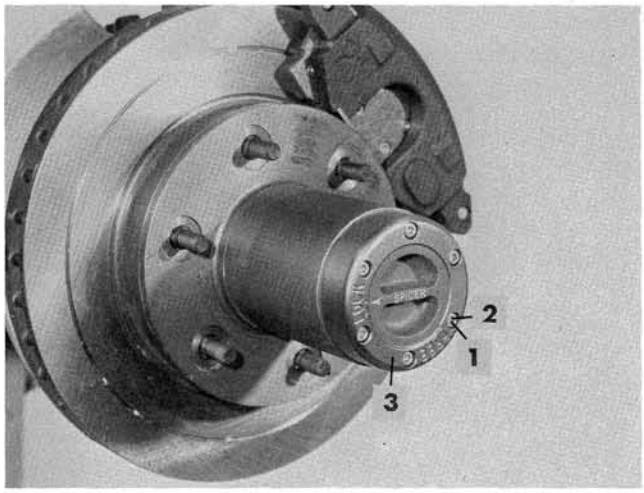
1005-18

(Figure 18) Apply a small amount of Moly X-L Hi-Speed Grease on the ears of the cam.



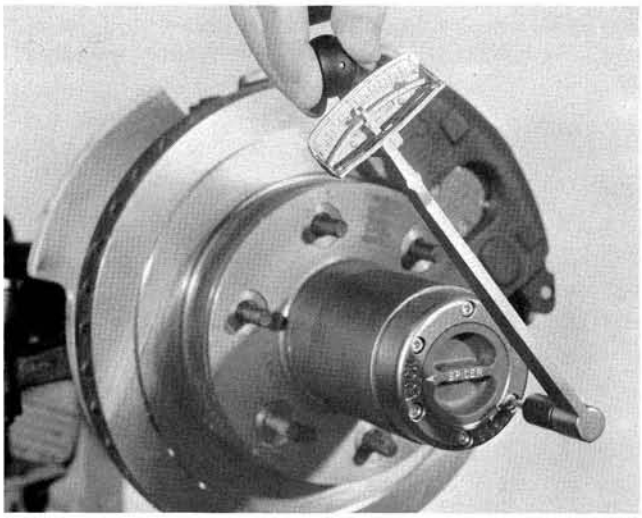
1005-19

(Figure 19) Apply a small amount of Parker "O" Ring lube in groove of actuating knob before assembling outer "O" ring (4).



1005-20

(Figure 20) Assemble knob (5) in hub ring (3) and assemble to axle with knob in locked position. Assemble screws and washers alternately and evenly, making sure the retainer ring is not cocked in the hub.



1005-21

(Figure 21) Torque the six lock-out hub screws (1) to 35 to 40 inch pounds. Be sure the six washers (2) are under each retaining screw. At first the lock-out hubs will probably seem hard to engage and disengage, but after mileage they should loosen up for easier operation. Either lock-out hub will fit either wheel.

CAUTION

Do not drive vehicle until you are sure that both lock-out hubs are engaged or disengaged. When vehicle is driven in water deep enough to cover the hubs, it is recommended that the internal parts be disassembled and inspected for possible water or dirt. After inspection, re-lubricate all parts before assembly to prevent rusting or corrosion.

For further information write to:

Dana Corporation
Spicer Axle Division
P.O. Box 1209
Fort Wayne, Indiana 46801

Attention: Technical Service Department

SERVICE INSTRUCTIONS

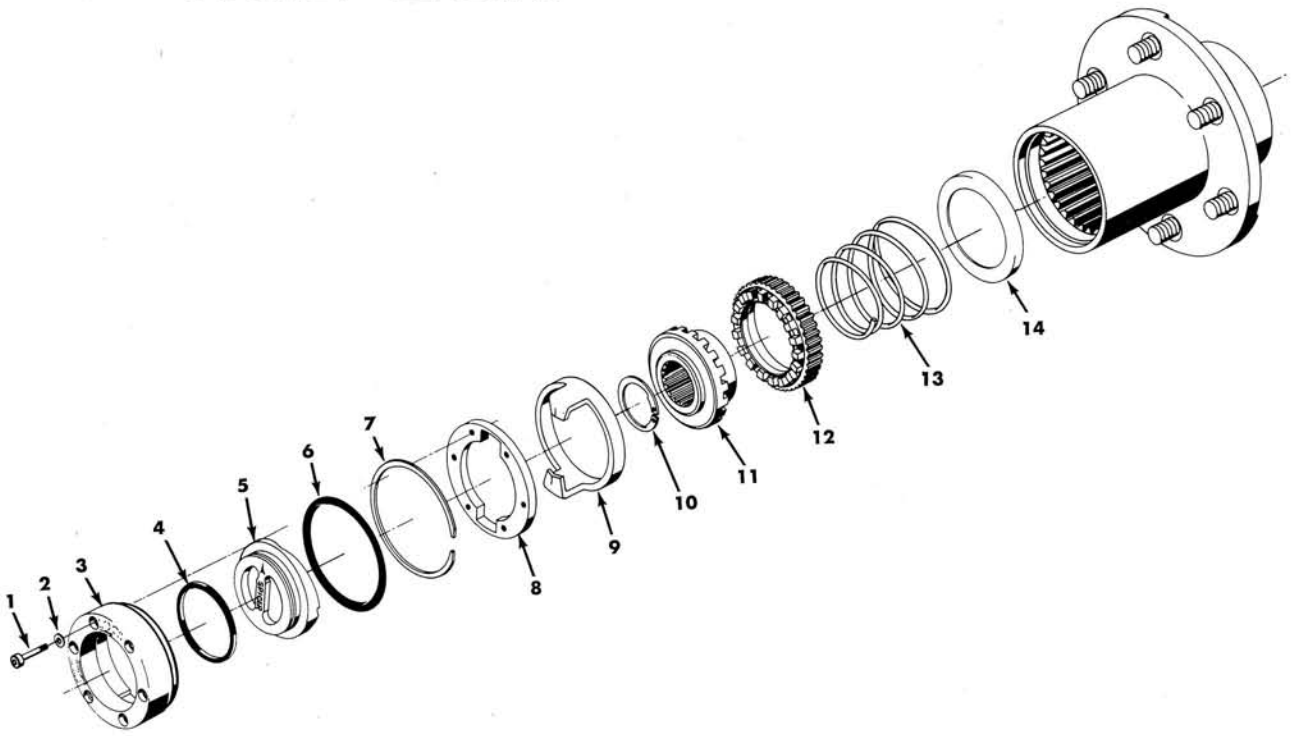
The parts shown in this exploded view can be individually replaced. However, parts 5, 9, 11 and 12 are exposed to wear when the Hub/Lok is engaged. Therefore, these parts should be checked carefully during inspection.

If wear or damage is evident on part 5, and part 9 is in good condition, then only replace part 5; if both 5 and 9 are worn or damaged, then both parts are to be replaced.

The same attention should be given to parts 11 and 12.

Part 11 has an internal spline and clutch teeth. If damage or wear is evident on this part, and part 12 shows none, it will only be necessary to replace part 11. Part 12 has an external spline and clutch teeth which mesh with the clutch teeth of part 11, and the same precautions should be taken as with part 11. However, if both parts show wear, then both are to be replaced.

SPICER® MODELS 30 and 44
INTERNAL TYPE
HUB LOK®



#1	(6)	Retaining plate bolts.	#8	(1)	Outer clutch retaining ring.
#2	(6)	Hub/Lok screw washers.	#9	(1)	Actuating cam body.
#3	(1)	Retainer knob—hub ring.	#10	(1)	Axle shaft snap ring.
#4	(1)	Actuator knob "O" ring.	#11	(1)	Axle shaft sleeve and ring.
#5	(1)	Actuator knob.	#12	(1)	Inner clutch ring.
#6	(1)	Retainer knob—hub ring "O" ring.	#13	(1)	Pressure spring.
#7	(1)	Internal snap ring.	#14	(1)	Spring retainer plate.