

CAPSTAN WINCH FIELD KIT

Part No. A-9232

Willys Model MB 1/4-Ton 4 x 4
Ford Model G.P.W. 1/4-Ton 4 x 4

This kit consists of the parts necessary to install a power driven winch on the 1/4 Ton 4 x 4 Truck. The winch is attached to the frame in front of the radiator and is driven selectively through a shaft and universal joints by the engine crankshaft.

Tools required:

- | | |
|--------------------------------|--------------------------------------|
| 1—1/2" Electric Drill | 1—9/16" End Wrench |
| 1—6" Measuring Scale | 1—5/8" End Wrench |
| 1—Pair Pliers | 1—11/16" End Wrench |
| 1—8" Screw Driver | 1—7/8" End Wrench |
| 1—Hammer | 1—1" End Wrench |
| 1—Cold Chisel | 1—7/16" End Wrench |
| 1—Center Punch | 1—13/8" Socket Wrench |
| 1—13/32" Twist Drill | 1—Socket Wrench Handle |
| 1—1/8" Twist Drill (Ford only) | 1—1/8" Fluted Internal Socket Wrench |
| 1—1/2" End Wrench | |

Parts required:

- 1—A-10287 Capstan Winch and Drive Shaft Assembly
 - 1—A-9215 Capstan Winch Assembly
 - 1—A-9202 Winch Drive Shaft Assembly
 - 1—A-9201 Straight Pin
 - 1—A-10339 Lubrication Caution Tag
- 1—A-10282 Winch Mounting Bracket
- 8— 51986 Screw—Flat Head 1/4-20" Thread x 7/8"
- 8— 52217 Nut—Hex 1/4"-20 Thread
- 8— 53084 Lockwasher—1/4" Standard
- 8—A-10397 Screw—Hex Head 3/8" - 24 Thread x 13/8"
- 2— 5152 Cotter Pin—3/32" x 7/8"
- 8— 52542 Nut—Hex 3/8"-24 Thread
- 8— 52046 Lockwasher—3/8" Standard
- 1—A-5691 Drag Link Bell Crank—Front
- 1— 52527 Cotter Pin—1/8" x 13/8"
- 1—A-15170 Winch Shift Rod Assembly
- 1— 50968 Cotter Pin—3/32" x 3/4"
- 1—A-9205 Fan Drive Pulley
- 1— 638513 Crankshaft Pulley Nut
- 3—A-9194 Winch Drive Spacer
- 1—A10284 Winch Drive Support Bracket Assembly
- 3— 53038 Screw—Hex Head 3/8" -24 Thread x7/8"
- 3— 52016 Lockwasher—3/8" Standard
- 1—A-9211 Winch Drive Shaft Hub Assembly
- 3—A-8578 Front Spring Clip
- 1—A-8289 Front Spring Clip
- 1—A-8463 Front Spring—Left
- 1—A-8464 Front Spring—Right
- 1— 53356 No. 7 Woodruff Key
- 1—A-9214 Winch Spline Shaft
- 1— 53355 Set Screw Hex Socket Type
- 2—A-1120 Front Bumper Gusset Spacer
- 1—A-10286 3/4" Rope—100 Ft.
- 2—A-10285 Axle Bumper Spacer
- 4— 50992 Screw—5/16"-24 Thread x 13/4"

- 1—A-10312 Capstan Drive Lubricant
- 4— 5397 Cotter Pin—1/8" x 11/2"—Spare Shear Pins
- 6—A-10370 Mounting Plate to Frame Spacer (Ford only)
- 2— 53032 3/8" Plain Washer (Ford only)

Installation sequence:

First remove the front bumper. Save the mounting screws, nuts and spacers but discard the wood filler bar. Also remove the radiator guard, the radiator and both front springs.

Remove the two axle to frame rubber bumpers, Fig. 1 and discard the screws. Replace the bumpers putting an axle bumper spacer, Part No. A-10285, between each bumper and frame side rail using four screws 5/16"-24 thread x 13/4" Part No. 50992.

Install the new front spring assemblies, left Part No. A-8463 and right Part No. 8464. Discard the original spring clips. Use two new spring clips, Part No. A-8678 to mount the left spring and one clip Part No. A-8578 and one Part No. A-8289 to mount the right spring. Clip Part No. A-8289 is placed next to the differential housing. Lubricate the spring shackles and pivot bolts.

Remove the steering bell crank and replace it with the new one Part No. A-5691. A new cotter pin Part No. 52527 is supplied. Install the tie rod end ball studs from the underside of the bell crank arm. See Fig. 2. Tighten the nuts securely and use two new cotter pins, Part No. 5152. Lubricate the bell crank bearings and ALINE the front wheels. They should toe-in 3/32".

Remove the fan belt and the crankshaft fan drive pulley. Install new crankshaft pulley, Part No. A-9205 with new pulley nut, Part No. 638513.

Install and adjust the fan belt. Adjust it by bringing the generator away from the engine until the belt can be depressed one inch by thumb pressure midway between the fan and generator pulleys.

Remove the two lower timing chain cover nuts and the second from the bottom next to the generator. See Fig. 3. Install tightly the three winch drive spacer nuts, Part No. A-9194 on these studs using the original lockwashers.

Mount the winch drive shaft hub assembly, Part No. A-9211 in place with the three driving pins in the corresponding holes in the crankshaft pulley. Place the winch drive support bracket assembly, Part No. A-10284 in position with the shifting fork entered in the drive shaft hub groove. Insert the winch spline shaft Part No. A-9214 through the support bracket

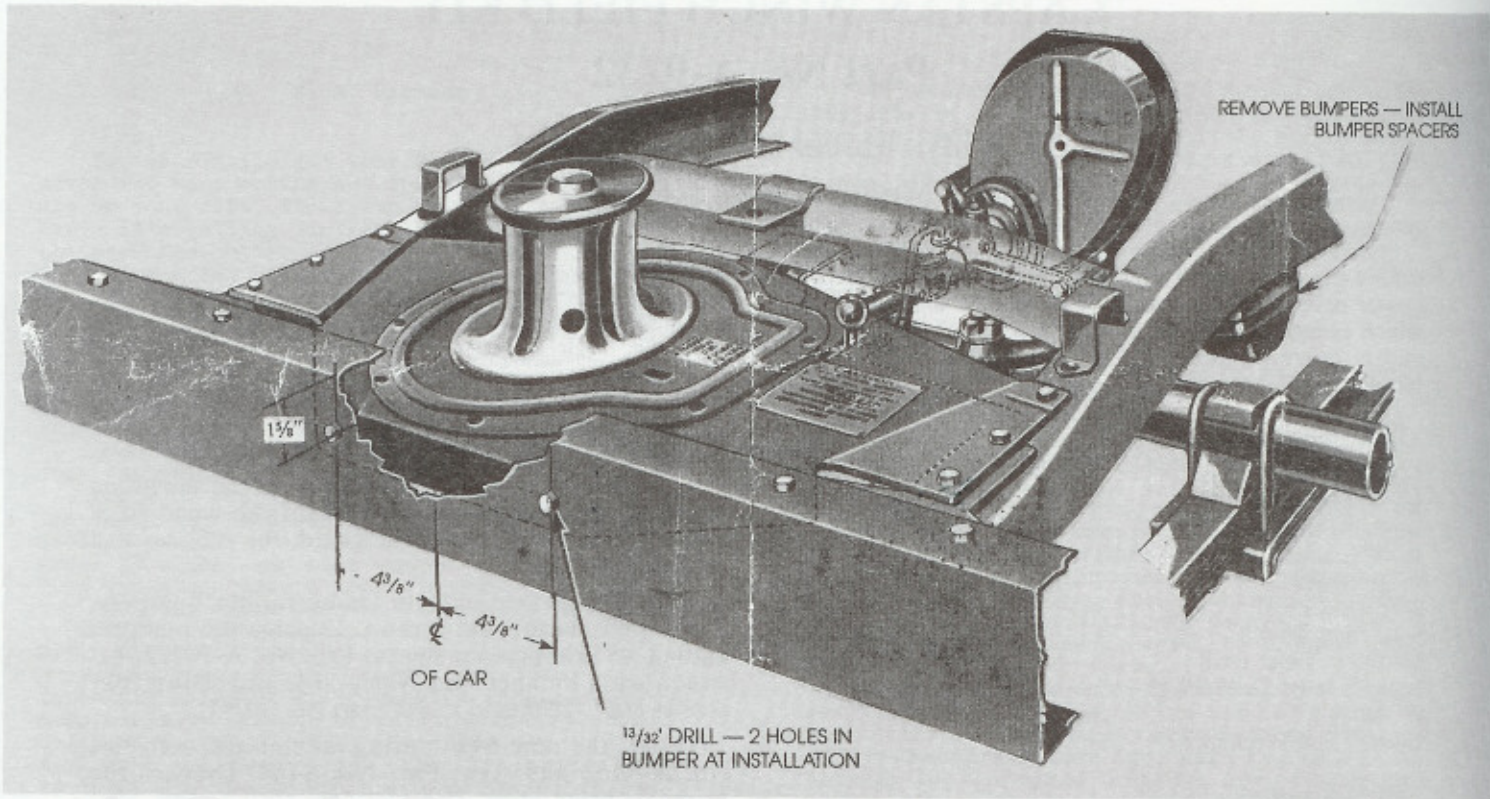


Fig. 1

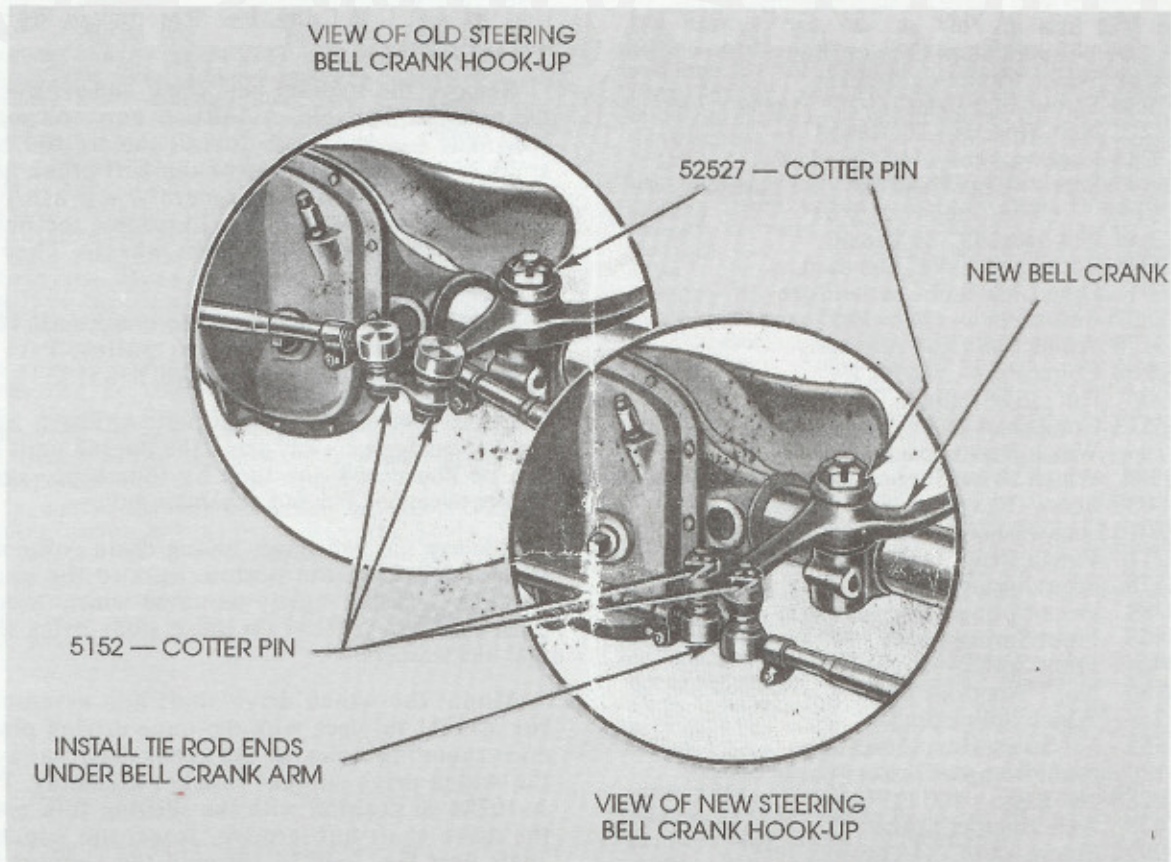


Fig. 2

entering the splines in the drive shaft hub. Swing the support bracket until the three arms are in alignment with the three spacer nuts. Attach the bracket firmly to the spacer nuts with three screws hex. head $\frac{3}{8}$ "-24 thread x $\frac{7}{8}$ " Part No. 53038. Use three $\frac{3}{8}$ " lockwashers Part No. 52046. Check the spine shaft to be sure it is free to turn.

Install woodruff key Part No. 53356 in the keyway at the outer end of the spline shaft. This completes assembly of the drive unit mounted on the engine.

Next as a bench assembly mount the winch and drive shaft assembly Part No. A-10287 on the winch mounting bracket Part No. A-10282. Use eight screws, $\frac{1}{4}$ " flat head-20 thread x $\frac{7}{8}$ " Part No. 51986 with lockwashers Part No. 53084 and nuts Part No. 52217. Place the screw heads on top.

Prepare the truck frame to receive the winch and bracket assembly by removing the four rivets as shown in Fig. 3. Center punch the two rivet heads located on the top surface of the bumper gussets. Use a $\frac{13}{32}$ " drill to cut through the rivet heads only, using a cold chisel to complete the removal if necessary. Drive the rivets out and pass the $\frac{13}{32}$ " drill through the four holes.

Illustration Fig. 3 shows the correct mounting of the winch and bracket assembly on both Willys and Ford. When mounted on the Willys the winch bracket is fastened ON TOP of the frame side rails. On the Ford it is fastened through spacers UNDER the flanged upper edge of the frame side rails.

When installed on either Willys or Ford the overall length of the drive line MUST be accurately established. If too long the spline shaft will interfere at the crankshaft pulley nut and the front end with universal joint action. (CAUTION: The front end of the spline shaft MUST NOT extend through the universal joint hub). The drive shaft is longer when used on the Willys than on the Ford. See Fig. 4. The length is set by the position of the universal joint yoke end on the spline shaft (locked in position by set screw Part No. 53355) and, by the position of the universal joint yoke end on the drive shaft (keyed by cotter pin Part No. 5397). To vary the length for use on the Willys or the Ford, two holes are provided at the rear end of the drive tube, for attachment of the universal joint by cotter pin Part No. 5397. The end hole is for the Willys and all assemblies are made at the factory with the cotter pin through this hole.

When installed on the Ford the cotter pin must be placed through the second hole. This hole is drilled through one side of the tube only and must be completed at assembly. Align the hole in the universal joint hub with the second hole and complete it with a $\frac{1}{8}$ " drill after which install the cotter pin.

The engine end of the spline shaft should have only enough clearance to prevent rubbing the crankshaft pulley nut. Place the shaft in this position after which check the forward end to be sure it does not extend through the universal joint yoke end. Should it extend through the yoke end, check the adjustment of the engine stay cable. A slack cable will allow the engine to ride forward.

When the overall length of the drive is correctly set, tighten set screw Part No. 53355 in the universal joint opposite the keyway to complete assembly of the drive.

INSTALLATION ON THE WILLYS

Place the winch and bracket assembly on TOP of the frame and slide it toward the engine and at the same time place the universal joint over the end of the spline shaft of the engine drive. Enter the spline shaft key in the universal joint keyway and align the two holes at each end of the winch bracket with the holes in the frame. Attach the bracket solidly with four screws $\frac{3}{8}$ " hex. 24 thread x $\frac{13}{8}$ " Part No. A-10397. Place the screw heads on top and use four lockwashers Part No. 52046 and four nuts Part No. 52542.

Determine the correct length of the drive line as instructed above after which tighten set screw Part No. 53355.

Drill a $\frac{13}{32}$ " hole through the frame side rail at the third hole through each end of the winch mounting bracket. Install screw $\frac{3}{8}$ " hex. 24 thread x $\frac{13}{8}$ " Part No. A-10397 at each end with lockwasher Part No. 52046 and Nut Part No. 52542.

INSTALLATION ON THE FORD

The installation on the Ford is the same as that on the Willys excepting the winch and bracket is mounted between the frame side rails under the upper flanges. See Fig. 3. Place spacers Part No. A-10370 between the winch bracket and the frame flange at the two front screws at each end of the winch bracket. Place a spacer and a plain washer Part No. 53032 at the rear screw at each end.

Also remove the cotter pin which keys the universal joint to the drive shaft tube. Slide the universal over the tube aligning the second hole in the tube with the hole through the universal joint yoke end. Complete this hole through the drive tube with a $\frac{1}{8}$ " drill. Install cotter pin Part No. 5397. See Fig. 4.

Bend the frame cross member front flange up approximately $\frac{1}{8}$ " for six inches at the center. See Fig. 3. This is necessary to give clearance for the strengthening rib on the winch.

The balance of assembly is the same with the Willys and Ford.

Next install the shaft rod assembly Part No. A-15170. Place the rod through the holes in the winch bracket first then hook it through the eye in the shift rail. Use cotter pin Part No. 50968 at the shift rail end. Test the shifting installation for correct operation.

Install the bumper without the wood filler bar. Use the original bolts, nuts and spacers with two new spacers Part No. A-1120.

Attach the front flange of the winch bracket to the bumper bar. See Fig. 1. Locate the center of the

Continued on rear outside cover.

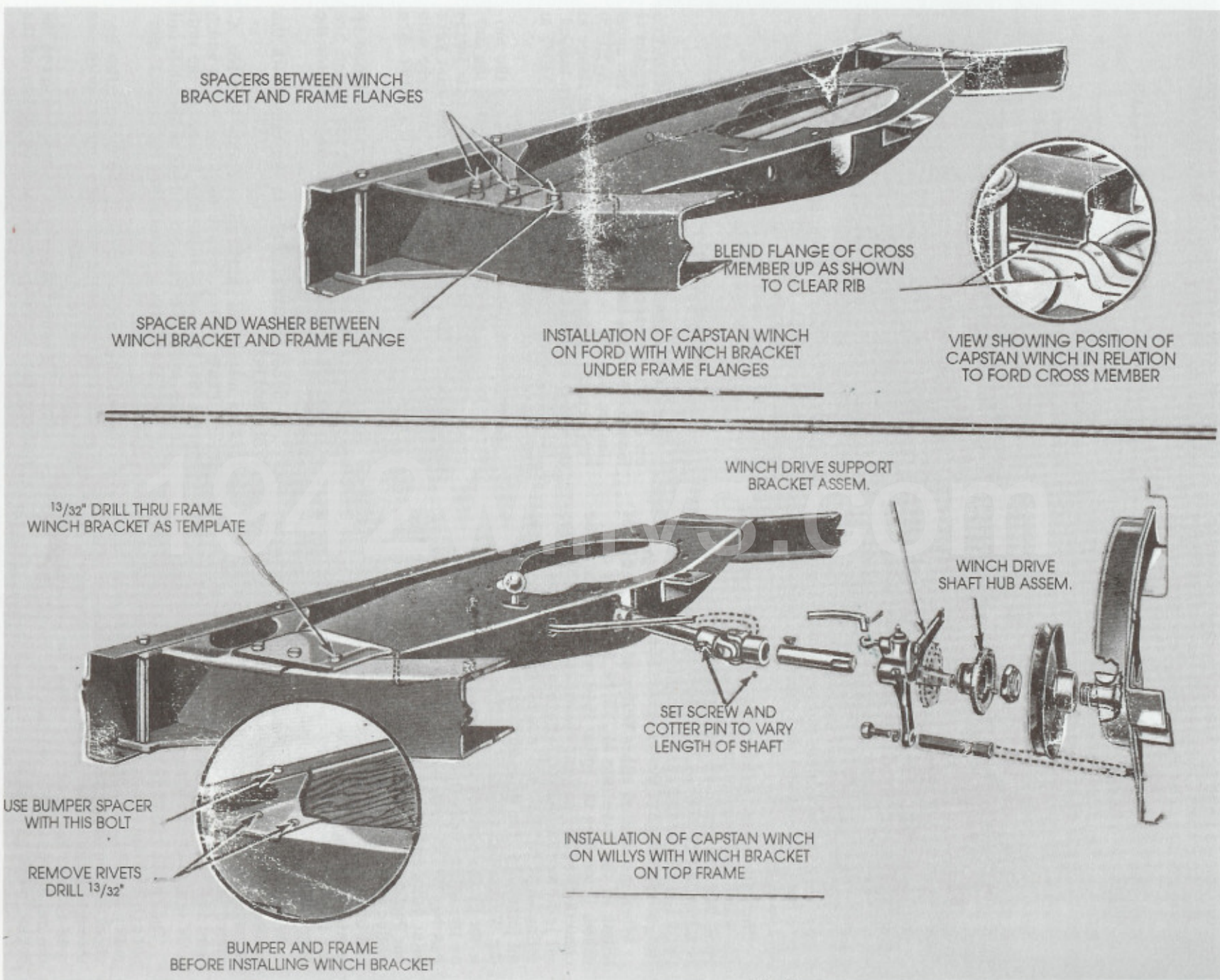


Fig. 3

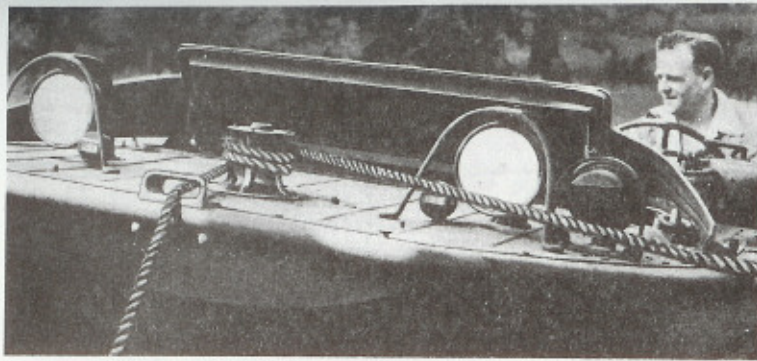


FIG. 6—VIEW SHOWING DOUBLE WRAP ON SPOOL



FIG. 4—WINCH FORWARD PULL

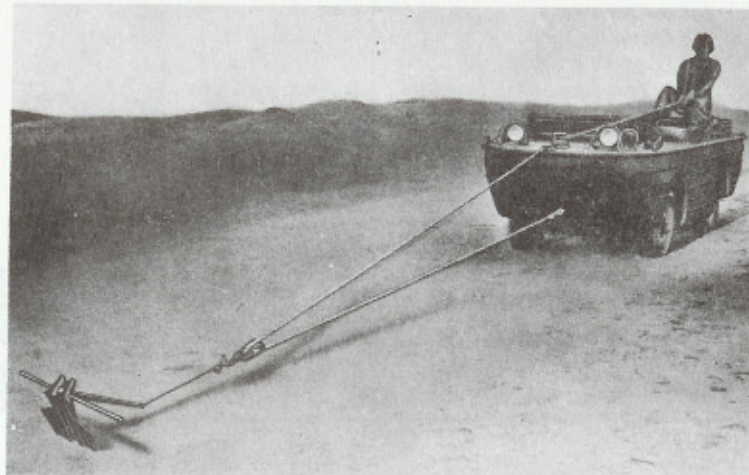


FIG. 8—USE OF SAND ANCHOR

Operation of the Winch and Winch Drive

The winch and winch drive unit is controlled by a lever extending through the instrument panel; see control knob No. 25, Fig. 1 under Drivers Instruction section. To engage winch drive clutch, pull the knob to the "out" position. To stop the winch the control knob should be returned to the "in" position.

The Winch can be used to good advantage in assisting the operator in covering terrane otherwise impassable, i.e., steep grades, mud, etc. For the proper hook-up for a forward pull, see figure 4. It will be noted that one end of the rope is attached to the towing eye. The other end is slipped through a pulley, which is anchored and the line is continued to the winch spool. Figure 6 shows how the rope is wrapped around the spool. Two wraps of the rope are necessary to prevent slippage. One operator should also hold the loose end of the rope during operation.

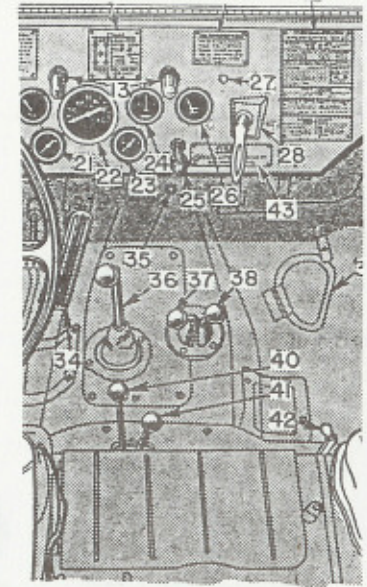


FIG. 1—CONTROLS



FIG. 7—VIEW SHOWING REAR PULL

Key	Part Name	Willys Part No.	Group Number
A	WINCH, assembly	WO-A-9215	2000
B	ROD	WO-A-9196	2003
C	SPACER	WO-A-10285	1601B
D	CLIP	WO-A-8578	1602
E	SPRING, assembly	WO-A-8463	1601
F	BRACKET	WO-A-10282	2001
G	SCREW	WO-A-10397	2001

WO-A-5654 & GPA 5654

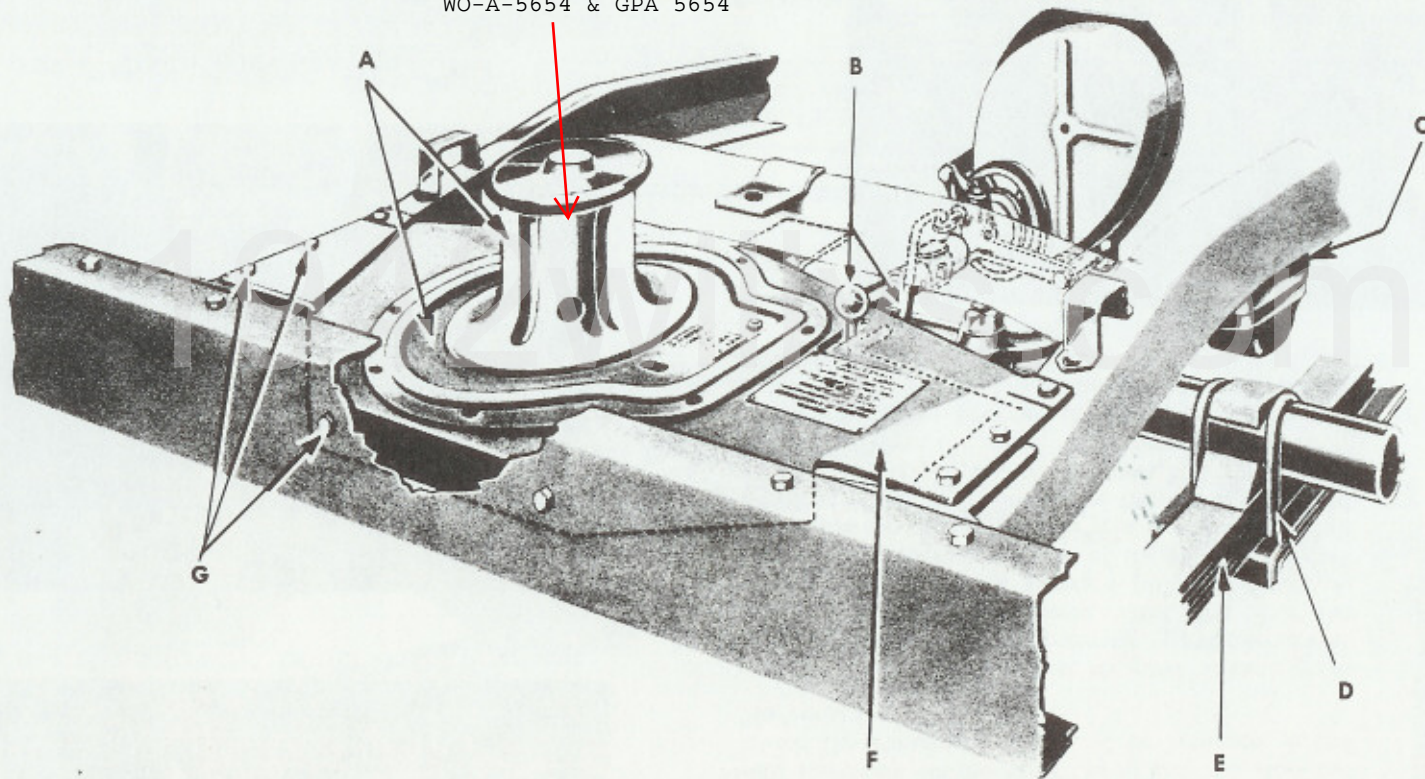


FIGURE 20-1—CAPSTAN WINCH—INSTALLED VIEW

GROUP 20—CAPSTAN WINCH

Figure Number	Official Stock Number	Piece Mark or Part Number		ITEM	Quant. Reqd. per Unit Assy.	Unit Price
		Ford No.	Willys No.			
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
				GROUP 20—CAPSTAN WINCH 2000—WINCH ASSEMBLY		
			WO-A-9232	KIT, field, capstan winch	1	
				(Consists of:		
			WO-A-5113	1 BAG, winch spare parts		
			WO-50922	4 BOLT, axle bumper spacer (hex-hd., $\frac{5}{16}$ -24NF-2 x $1\frac{3}{4}$)		
			WO-53038	3 BOLT, mounting, winch support bracket (hex-hd., $\frac{3}{8}$ -24NF-2 x $\frac{7}{8}$)		
			WO-A-10397	8 BOLT, mounting, winch plate (hex-hd., S., $\frac{3}{8}$ -24NF-2 x $1\frac{3}{8}$)		
			WO-A-10282	1 BRACKET, mounting, winch, assembly		
			WO-A-10284	1 BRACKET, support, winch drive, assembly		
			WO-A-8578	3 CLIP, front spring (see Group 1601)		
			WO-A-8289	1 CLIP, front spring (see Group 1601)		
			WO-A-5691	1 CRANK, bell, drag link, front (see group 1401)		
			WO-A-9233	1 CRATE, shipping, capstan winch field kit		
			WO-A-971	1 HANDLE, winch shift rod		
			WO-A-9211	1 HUB, winch drive shaft, assembly		
			WO-A-10394	1 INSTRUCTION, installation, capstan winch field kit		
			WO-53356	1 KEY, Woodruff, No. 7		
			WO-A-10312	1 qt. LUBRICANT, winch drive		
			WO-638513	1 NUT, engine crankshaft pulley		
			WO-52542	8 NUT, winch plate mounting bolt (hex. $\frac{3}{8}$ -24NF-2)		
			WO-52217	8 NUT, winch, bracket mounting screw (hex. $\frac{1}{4}$ -20NC-2)		
			WO-5152	2 PIN, cotter, $\frac{5}{32}$ x $\frac{7}{8}$		
			WO-52527	1 PIN, cotter, $\frac{1}{8}$ x $1\frac{3}{8}$ (drag link bell crank)		
			WO-5397	4 PIN, cotter, $\frac{1}{8}$ x $1\frac{1}{2}$ (spare drive shaft shear pins)		
			WO-50968	1 PIN, cotter, $\frac{5}{32}$ x $\frac{3}{4}$ (winch shift rod)		
	9680-A-9201		WO-A-9201	1 PIN, shaft, assembly to winch, assembly		
	9680-A-9205		WO-A-9205	1 PULLEY, drive, fan		
	9680-A-9196		WO-A-9196	1 ROD, shift, winch		
			WO-A-102866	100 ft. ROPE, $\frac{3}{4}$ in.		
			WO-53355	1 SCREW, set, hex., socket type		
			WO-51986	8 SCREW, mounting, winch mounting bracket (fl-hd., $\frac{1}{4}$ -20NC-2 x $\frac{7}{8}$)		
			WO-A-9202	1 SHAFT, drive, winch, assembly		
	9680-A-9214		WO-A-9214	1 SHAFT, winch spline		
			WO-A-10285	2 SPACER, axle bumper		
			WO-A-1120	2 SPACER, front bumper gusset		

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GROUP 20—CAPSTAN WINCH (Cont'd)

Figure Number	Official Stock Number	Piece Mark or Part Number		ITEM	Quant. Reqd. per Unit Assy.	Unit Price
		Ford No.	Willys No.			
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
				2000—WINCH ASSEMBLY (Cont'd)		
				KIT, field capstan winch (Cont'd)		
	9680-A-9194		WO-A-10370	6 SPACER, mounting plate to frame (use with Ford installation)		
	3320-GPW-5311-B	FM-GPW-5311-B	WO-A-9194	3 SPACER, winch drive		
	3320-GPW-5310-B	FM-GPW-5310-B	WO-A-8463	1 SPRING, front left, assembly (see Group 1601)		
			WO-A-8464	1 SPRING, front right, assembly (see Group 1601)		
			WO-A-10339	1 TAG, caution, winch lubrication		
			WO-53084	8 WASHER, winch mounting bracket mounting screw (1/4 in.)		
			WO-52046	11 WASHER, winch plate to frame screw (3/8 in.)		
			WO-53032	2 WASHER, plain 3/8 in. (use with Ford installation)		
			WO-A-9215	1 WINCH, capstan, assembly (as furnished by U.S. ORDNANCE)		
			WO-A-10287	1 WINCH, capstan, w/drive SHAFT, assembly)		
20-1	9680-A-9215		WO-A-9215	WINCH, capstan, assembly (as furnished by U.S. ORDNANCE and re-worked by Willys)	1	
			WO-A-10287	WINCH, capstan, w/drive SHAFT, assembly (includes worm GEAR and thrust WASHERS)	1	
			WO-52217	NUTS, hex., S., 1/4-20NC-2 (winch to bracket screw)	8	
			WO-51986	SCREW, fl-hd., mach., S., 1/4-20NC-2 x 7/8 (winch to bracket)	8	
			WO-53084	WASHER, lock, S., 1/4 in. (winch to bracket screw)	8	
				2001—WINCH PARTS AND WINCH DRIVE SHAFTS		
20-1, 2			WO-635838	BALL, poppet, winch drive support bracket	1	
20-1			WO-A-10282	BRACKET, mounting, capstan winch, assembly	1	
			WO-A-10397	BOLT (hex-hd., S., 3/8-24NF-2 x 1 3/8)	8	
			WO-52542	NUT, hex., S., 3/8-24NF-2	8	
20-2			WO-52046	WASHER, lock, S., 3/8 in.	8	
			WO-A-10284	BRACKET, support winch drive, w/BUSHING, assembly (includes: poppet BALL, Alemite FITTINGS, shift FORK, shift RAIL and poppet SPRING)	1	
20-2	9680-A-9210		WO-9210	BRACKET, support winch drive, w/BUSHING, assembly	1	
20-2	H001-5421245		WO-53038	BOLT, hex-hd., S., 3/8-24NF-2 x 7/8	3	
20-2			WO-52046	WASHER, lock, S., 3/8 in.	3	
	9680-A-9208		WO-A-9208	BUSHING, winch shaft	2	
			WO-638792	FITTING, Alemite, winch drive support bracket	1	
			WO-640038	FITTING, Alemite, winch drive support bracket	1	
20-2	9680-A-9211		WO-A-9211	HUB, winch drive shaft, w/hub PIN, assembly	1	
	9680-A-10315		WO-A-10315	GASKET, housing, winch drive	1	

	9680-A-10302	WO-A-10302	GEAR, worm, capstan winch	1
20-3	9680-A-9157	WO-A-9157	JOINT, universal, winch, drive shaft, front, assembly	1
20-3	9680-A-9158	WO-A-9158	JOINT, universal, winch, drive shaft, rear, assembly	1
20-3		WO-53356	KEY, Woodruff, No. 7	1
20-3		WO-53355	SCREW, set, hex-socket, S., $\frac{5}{16}$ -24NF-2 (GM-139091)	1
20-3		WO-5134	PIN, shear, (cotter S., $\frac{3}{8}$ x $1\frac{3}{4}$)	1
		WO-A-9212	PIN, drive, winch drive shaft hub	3
		WO-A-10300	PIN, winch drive shaft thrust washer	1
20-2	9680-A-9202	WO-A-9202	SHAFT, drive, capstan winch, w/universal JOINTS, assembly	1

Key	Part Name	Willys Part No.	Group Number
A	ROD	WO-A-9196	2003
B	SHAFT, assembly	WO-A-9202	2001
C	SHAFT	WO-A-9214	2001
D	BRACKET, assembly	WO-A-10284	2001
E	HUB	WO-A-9211	2001
F	NUT	WO-638513	0102
G	PULLEY	WO-A-9205	0102
H	SPACER	WO-A-9194	2001
J	WASHER	WO-52046	2001
K	BOLT	WO-53038	2001
L	BRACKET	WO-A-10282	2001

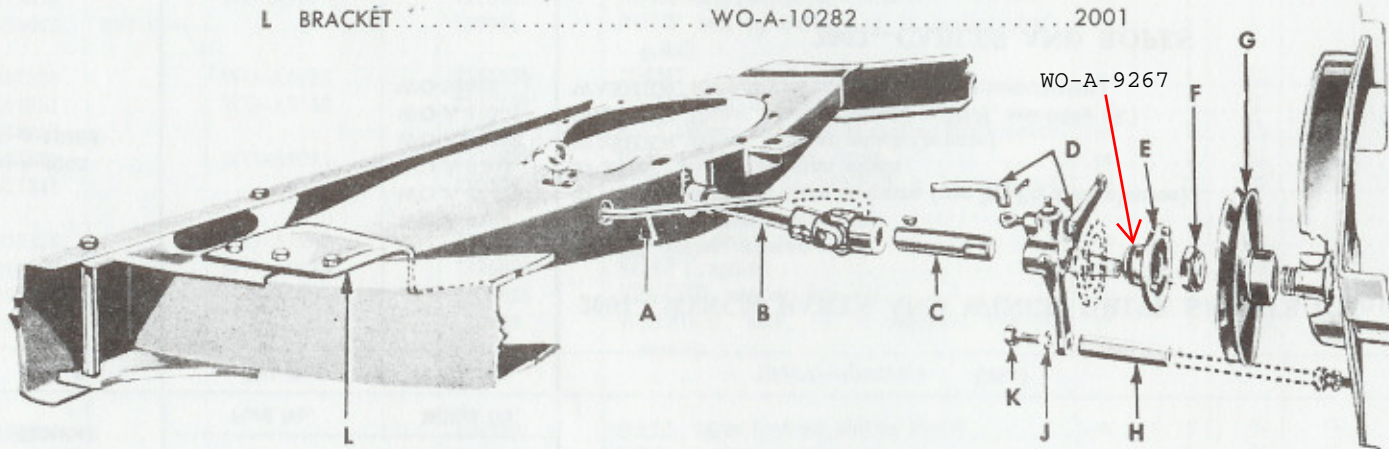


FIGURE 20-2—CAPSTAN WINCH MOUNTING BRACKET AND DRIVE SHAFT

GROUP 20—CAPSTAN WINCH (Cont'd)

Figure Number	Official Stock Number	Piece Mark or Part Number		ITEM	Quant. Reqd. per Unit Assy.	Unit Price	
		Ford No.	Willys No.				
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	
20-2, 3 20-2	9680-A-9203 9680-A-10308			2001—WINCH PARTS AND WINCH DRIVE SHAFTS (Cont'd)			
			WO-A-2914	SHAFT, spline, capstan winch.....	1		
			WO-A-9194	SPACER, capstan winch drive.....	1		
			WO-A-10370	SPACER, mounting plate to frame (use for Ford installation).....	6		
			WO-A-9203	SPRING, poppet, capstan winch.....	1		
			WO-A-10308	WASHER, thrust, capstan winch (bronze).....	1		
			WO-A-10301	WASHER, thrust, capstan winch, w/PIN, assembly (S.).....	1		
			WO-53032	WASHER, plain, S., $\frac{3}{8}$ in. (use for Ford installation).....	2		
					2002—CABLES AND ROPES		
				WO-A-10286	ROPE, $\frac{3}{4}$ in. x 100 ft.....	1	
			2003—WINCH CONTROL PARTS				
		WO-A-2907	FORK, shift, capstan winch.....	1			
		WO-A-971	HANDLE, winch shift rod.....	1			
	9680-A-9206	WO-A-9206	RAIL, shift, capstan winch.....	1			
		WO-50802	NUT, hex., S., $\frac{5}{16}$ -24NF-2.....	1			
		WO-53029	WASHER, lock, S., $\frac{5}{16}$ in. (GM-138485).....	1			
	H001-7017651	WO-A-9196	ROD, shift, capstan winch.....	1			
20-1, 2							