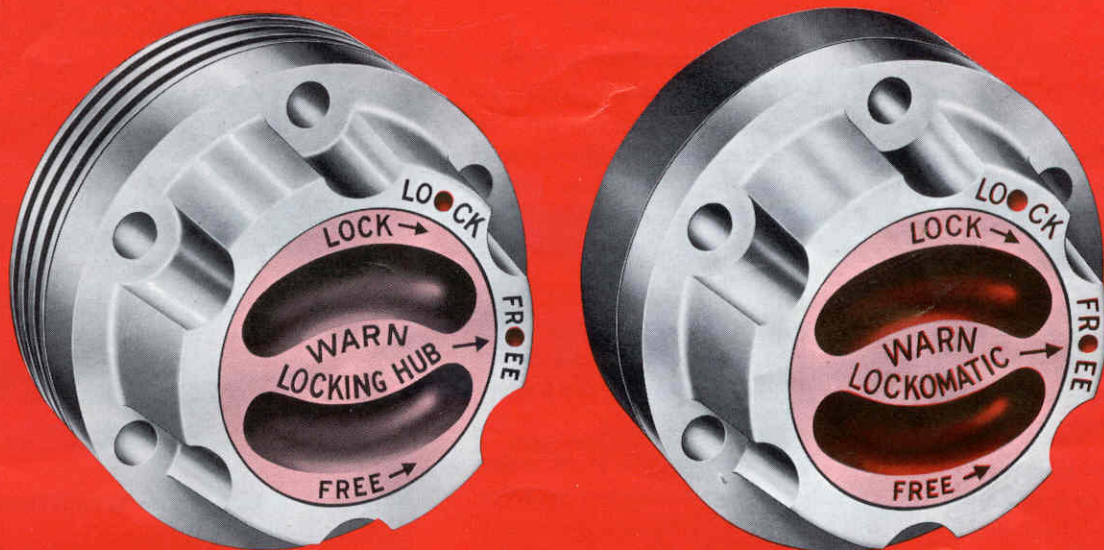




THE ORIGINAL

SELECTIVE DRIVE

WARN HUBS

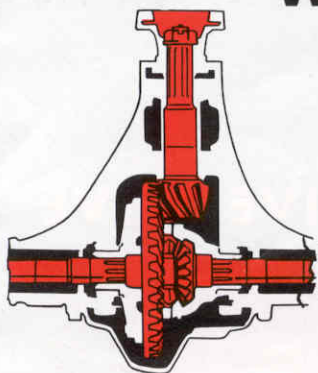


® WARN is a registered trademark of WARN MFG. CO., INC., Seattle, Washington

CHEVROLET ■ DODGE ■ FORD ■ GMC ■ LAND ROVER ■ NAPCO
DATSUN ■ TOYOTA ■ MARMON-HERRINGTON ■ STUDEBAKER

WARN MFG. CO., INC. 9050 Empire Way South • Seattle, Washington 98118, U.S.A.

What a difference WARN HUBS MAKE IN 4-WHEEL DRIVES!



**save gas,
gears,
tires!**



They stop front end drag in 2-wheel drive by disengaging the front power train (shown in color in axle drawing) from the front wheels. The entire front end assembly stands still in 2-wheel drive—only the wheels turn. In 2-wheel drive without Warn Hubs the entire front drive is turned by the front wheels, which causes drag, hard steering, unnecessary gear wear, uneven tire wear, poor gas mileage.

Thanks to Warn Hubs, a 4-wheel drive is now practical for everyday use on highways and city streets, as well as for off-road slugging. These famous hubs are the most important accessory you can get for any 4-wheel drive, because they make a big difference in performance, pep, speed, power, economy and maintenance every mile you drive. And, because the front drive *is* disengaged, and the vehicle *does* roll more easily, Warn Hubs cut gas use, reduce tire and engine wear, and minimize most front end repair problems.

They permit front wheel balancing, and reduce torque build-up. They also stop annoying front drive whine, shimmying in 2-wheel drive, and improve braking efficiency as well as brake life because the brakes don't have to stop the inertia of the front drive too.

If you've been pining for a 4-wheel drive, get one—Warn Hubs make it just about as easy to handle, as efficient, and as economical to drive as a standard 2-wheel drive vehicle. Remember, with all the pluses Warn Hubs *add* to your 4-wheel drive vehicle, you *keep* all the 4-wheel drive advantages you bought it for. Warn Hubs are "Selective Drive" hubs. *You* select free-wheeling 2-wheel drive, or tractive 4-wheel drive.

No wonder the majority of 4-wheel drive owners have Warn Hubs!

GUARANTEED FOR 2 YEARS OR 24,000 MILES



ARTHUR M. WARN
Founder and President
Warn Mfg. Co., Inc.

Warn Hubs are guaranteed against mechanical failure for 24,000 miles or for 24 months, whichever comes first, and to give complete satisfaction under all conditions.

"Regardless of the wording of our guarantee, our policy has always been 'if we made it wrong, we'll make it right, with everybody'," says

ARTHUR M. WARN, President

- Nearly a million Warn Hubs are in use, with a record of 99.9% trouble-free service in billions of miles of use under all circumstances.

2 MATCHLESS

The unbeatable original!

WARN LOCKING HUBS

easy to operate . . . completely reliable

Warn Locking Hubs have manual controls for selecting either free-wheeling 2-wheel drive or normal tractive 4-wheel drive. With the hubs in "lock" position, the vehicle operates exactly as it would without Warn Hubs. With the hubs in "free" position, the vehicle operates as a free-wheeling 2-wheel drive, with traction on the rear wheels only. A three-quarter turn of the fingertip controls, as easy to use as turning a doorknob, engages or disengages the hubs. A ball and pin lock assures positive, accurate seating. Protective oil seal rings on the controls keep grease in, dirt out. The hubs never need greasing.

Warn Hubs are engineered to withstand loads much greater than anticipated in normal use. If the vehicle can "take it," so can Warn Hubs.

FIRST CHOICE FOR CONVENIENCE!

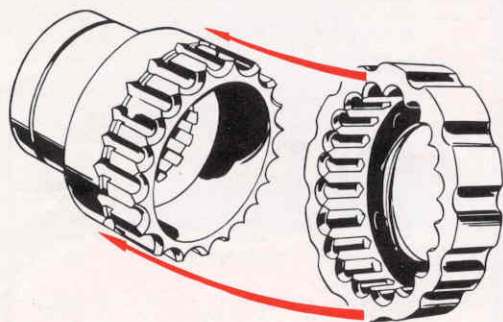
WARN LOCK-O-MATIC HUBS

not even a button to push
to change
drive



Warn Lock-O-Matic Hubs are undoubtedly the handiest hubs made for the man whose 4-wheel drive is an all-purpose rig. Women particularly appreciate them, because the hubs automatically engage the front wheels when 4-wheel drive is used—and automatically disengage them for *free-wheeling* 2-wheel drive, when the vehicle is used in 2-wheel drive. The driver doesn't have to leave the cab, lift a finger, or even *think* about changing the hub controls, when it becomes necessary to shift into 4-wheel drive in the middle of a stream, on a steep grade, or in any other situation. *When 4-wheel drive is engaged at the transfer case*, the hubs also engage! Warn Lock-O-Matic Hubs do have a manual control, which can be "locked" for compression braking or use on ice when desirable.

DESIGNS WITH AN AMAZING RECORD OF DEPENDABILITY!

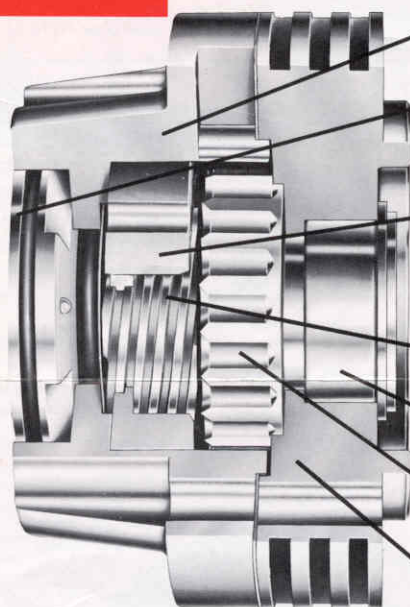


RUGGED 20-TOOTH TOTAL CONTACT DRIVE GEARS INSURE MAXIMUM STRENGTH IN 4-WHEEL DRIVE

Hubs are under load *only* in 4-wheel drive. Warn's patented *exclusive* drive gears give the maximum area of engagement for greatest strength, with a minimum of play in the gears. There is no slop or back lash. Sudden shock loads and severe strains do not "hammer" the gears against each other, but transmit power smoothly. The gears are also cut so they don't slide out of engagement under pressure. Warn Hubs are so rugged that over 99.9% of them have never required repairs, from *any* cause. Warn's precision-mated gears insure solid front drive engagement always.

MODEL NO. M-7

U.S. Patent
No. 2,684,140



CLUTCH BODY — Machined from 14ST aluminum alloy bar, heat treated to 62,000 p.s.i. tensile strength.

CONTROL DIAL—Brass control with spring and ball seat.

CLUTCH RING — Machined from 8620 alloy carburizing steel — carburized, hardened, tempered, to provide wearing surface of 61-64 Rockwell "C," and inner core with tensile strength of 140,000-145,000 p.s.i.

CLUTCH SCREW — Machined from 8620 alloy carburizing steel, treated same as CLUTCH RING.

NEEDLE BEARING — Finest Torrington bearings.

AXLE SHAFT—Machined from 8620 alloy carburizing steel, treated same as CLUTCH RING.

HUB BODY—Machined from 356 aluminum alloy, heat treated to 36,000 p.s.i. tensile strength.

Warn Lock-O-Matic Hubs function by causing rollers to wedge between the surface of the hub axle shaft and hub body when power is applied to the vehicle axle. The cross section drawing below shows the rollers wedged in drive position (black dots) and out of contact (color dots) in free-wheeling position. In free-wheeling 2-wheel drive, the entire roller cage stands still.

2-WHEEL DRIVE



4-WHEEL DRIVE

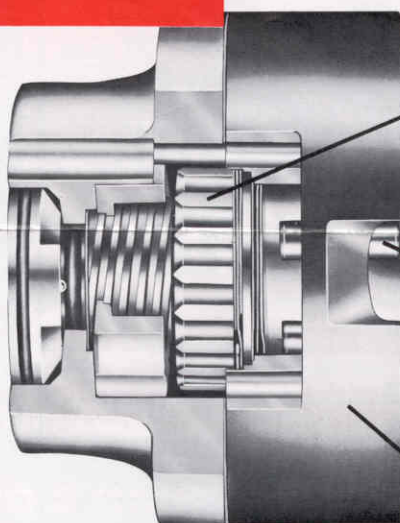


IN 2-WHEEL DRIVE ONLY THE HUB HOUSING TURNS. In 2-wheel drive, rollers "float" in the center of the space between the hub body and cam faces of the hub axle shaft. Only the hub body moves in 2-wheel drive. It is bolted to the wheel housing, so it rotates with the wheel. But, because the rollers are not in contact with the hub cam faces the front axle is immobile. 4-wheel drive engages automatically in either forward or reverse, because the *direction* power is applied by the front axle determines which way the rollers "rock" in the cage area.

IN 4-WHEEL DRIVE, EVERYTHING TURNS. In 4-wheel drive, with power on, the vehicle axle turns the hub axle shaft. This causes the rollers to ride out to the edges of the cam faces of the hub axle shaft, thus forcing the rollers up against the hub body. This pressure contact turns the hub body and front wheels, just as effectively as gears in mesh. Vehicle returns automatically to free-wheeling 2-wheel drive when power is "off." When vehicle is shifted out of 4-wheel drive, rollers return to the centers of the flat faces, and "float" free.

MODEL NO. M-15

PATENT APPLIED FOR



CLUTCH ASSEMBLY IS SAME AS ON THE LOCKING HUB

AXLE SHAFT — Machined from 8620 alloy carburizing steel, treated same as CLUTCH RING.

BRAKE PRESSURE SPRING—Spring steel. Automatically adjusts brake shoe tension.

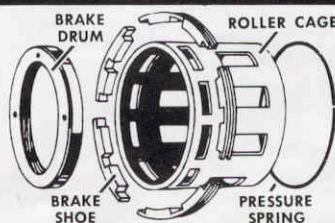
NYLON BRAKE SHOES—Permanently self-adjusting. Wear resistant, unaffected by grease. 5 segments.

ROLLERS — 1020 steel, case hardened to 61-63 Rockwell, ground smooth.

BRAKE DRUM — Machined from 8620 alloy carburizing steel, treated same as CLUTCH RING.

ROLLER CAGE—Steel tubing — slotted, burrs removed, heat treated.

HUB BODY—Machined from highest grade carburizing steel — carburized, induction hardened.



FUNCTION OF BRAKE DRUM AND DRAG SHOE

The brake drum fastens permanently to the vehicle axle to activate the Brake Shoe whenever power is applied. The Nylon Brake Shoes hold the roller cage from turning when power is off, or is applied in the opposite direction. The positive, but light braking action backs off the pressure against the rollers and releases them so they roll free.

VEHICLE				WARN HUBS			List	
CHEVROLET	K-1400	60 and later		OLD NUMBER	NEW NUMBER			
	K-2500	60 and later		WL-1000	M-8	Locking	\$ 70.00	
	3100 3200	58-59 Napco axle (See Note 1)		DL-21 KO-11	M-7 M-31	Locking Lock-O-Matic	\$ 70.00 96.75	
	3600 3800	58-59 Napco axle (See Note 1)	single rear wheels dual rear wheels	WL-54-21	M-16	Locking	\$ 70.00	
	4000 5000 6000	58 and later Napco axle (See Note 1)		WL-54-34 WL-130-160	M-21 M-23	Locking Locking	\$ 70.00 \$ 70.00	
				WL-130-142	M-19	Locking	\$102.00	
DODGE	W-100 W-200	57 and later		DL-21 DO-11	M-7 M-15	Locking Lock-O-Matic	\$ 70.00 96.75	
	W-300	57 only		DL-23 DA-1	M-13 M-27	Locking Automatic	\$ 70.00 96.75	
	W-300-M	58 and later, Chrysler axle						
	Power Wagon	46 thru 56, Chrysler axle						
	Army	¾ and 1 ton		WL-14509	M-22	Locking	\$ 70.00	
	Army	½ ton		DL-300	M-14	Locking	\$ 82.50	
	W-300 W-500	58 and later 57 and later		DL-500	M-72	Locking	\$102.00	
FORD	Bronco	All models		FL-2 ---	M-4 M-75	Locking Lock-O-Matic	\$ 70.00 96.75	
	F-100	59 and later		FL-2 ---	M-4 M-75	Locking Lock-O-Matic	\$ 70.00 96.75	
	F-250	59 and later		FL-2 ---	M-4 M-75	Locking Lock-O-Matic	\$ 70.00 96.75	
	F-250	63 and later with heavy duty axle (3500 lbs.)		DL-21 KO-11	M-7 M-31	Locking Lock-O-Matic	\$ 70.00 96.75	
	Ford with Napco axle (See Note 1)	F-100 F-250 F-350 F-600 C-600	56 thru 58 56 thru 58 56 and later 58 and later	single rear wheels dual rear wheels single rear wheels dual rear wheels	WL-54-21 WL-54-34 WL-130-160 WL-54-34 WL-130-160 WL-130-142	M-16 M-21 M-23 M-21 M-23 M-19	Locking Locking Locking Locking Locking Locking	\$ 70.00 \$ 70.00 \$ 70.00 \$ 70.00 \$ 70.00 \$102.00
Ford with Marmon-Herrington axle	F-500	5-9/16" drive flange bolt circle dia.		---	M-72	Locking	\$102.00	
	F-600	5-3/16" drive flange bolt circle dia.		---	M-71	Locking	\$102.00	
	F-600	5-9/16" drive flange bolt circle dia.		F-6	M-29	Locking	\$102.00	
	F-700	5-9/16" drive flange bolt circle dia. (6-Splined Axle)		F-7	M-28	Locking	\$102.00	
	F-800			F-8	M-28	Locking	\$102.00	
	F-900			F-9	M-28	Locking	\$102.00	
GMC	K-1000	60 and later		WL-1000	M-8	Locking	\$ 70.00	
	K-1500	60 and later		DL-21 KO-11	M-7 M-31	Locking Lock-O-Matic	\$ 70.00 96.75	
	101 102	58-59 Napco axle (See Note 1)		WL-54-21	M-16	Locking	\$ 70.00	
	150 250	58-59 Napco axle (See Note 1)	single rear wheels dual rear wheels	WL-54-34 WL-130-160	M-21 M-23	Locking Locking	\$ 70.00 \$ 70.00	
	300	Napco axle (See Note 1)	58 and later 54 thru 57	WL-130-142 WL-10173	M-19 M-25	Locking Locking	\$102.00 \$102.00	
			58 and later	WL-130-142	M-19	Locking	\$102.00	
	350 370	Napco axle (See Note 1)	57	WL-10173 WL-130-142	M-25 M-19	Locking Locking	\$102.00 102.00	
			56	WL-10173	M-25	Locking	\$102.00	
			54-55	WL-10112	M-35	Locking	\$102.00	
	Datsun Patrol	All 4x4 models			PL-2	M-49	Locking	\$ 70.00
	LAND ROVER	All 4x4 models			LRL-2 LRO-1	M-11 M-51	Locking Lock-O-Matic	\$ 70.00 96.75
	STUDEBAKER	¾ ton, 1 ton, with Napco axle (See Note 1)			WL-54-34	M-21	Locking	\$ 70.00
TOYOTA	All 4x4 models			TL-2 ---	M-47 M-84	Locking Lock-O-Matic	\$ 70.00 96.75	
JEEP	AVAILABLE THROUGH KAISER-JEEP DEALERS ONLY SEE SEPARATE CATALOG							
MILITARY 6x6 TRUCKS	Due to interchangeability of parts on military 6x6 trucks, Warn Locking Hubs can be supplied for most Army trucks to 2½ tons. If you are not sure of the correct Warn Hub model for any all-wheel drive, send us the vehicle drive flange bolt circle diameter, axle diameter and axle spline count.							



MANUFACTURED AND GUARANTEED BY

WARN MANUFACTURING CO.,

9050 Empire Way So. Seattle, Washington 981

NOTE 1—In ordering Warn Hubs for vehicles equipped with Napco axles and not listed above, please use the following chart. Give new Warn Hub number corresponding to Napco Drive Flange and/or Bolt Circle Diameter.

NAPCO DRIVE FLANGE NO.	BOLT CIRCLE DIA.	OLD WARN NUMBER	NEW WARN NUMBER
14509	4"	WL-14509	M-22
15828	3.12"	WL-15828	M-18
130-160	3.95"	WL-130-160	M-23
54-21	2-27/32"	WL-54-21	M-16
54-34	3-7/8"	WL-54-34	M-21
10112	---	WL-10112	M-35
10173	5.12"	WL-10173	M-25
130-142	5.37"	WL-130-142	M-19

MANUFACTURED AND GUARANTEED BY



WARN MANUFACTURING CO., INC.

9050 Empire Way So. Seattle, Washington 98118, U.S.A.

Phone 206-725-0789

SOLD BY