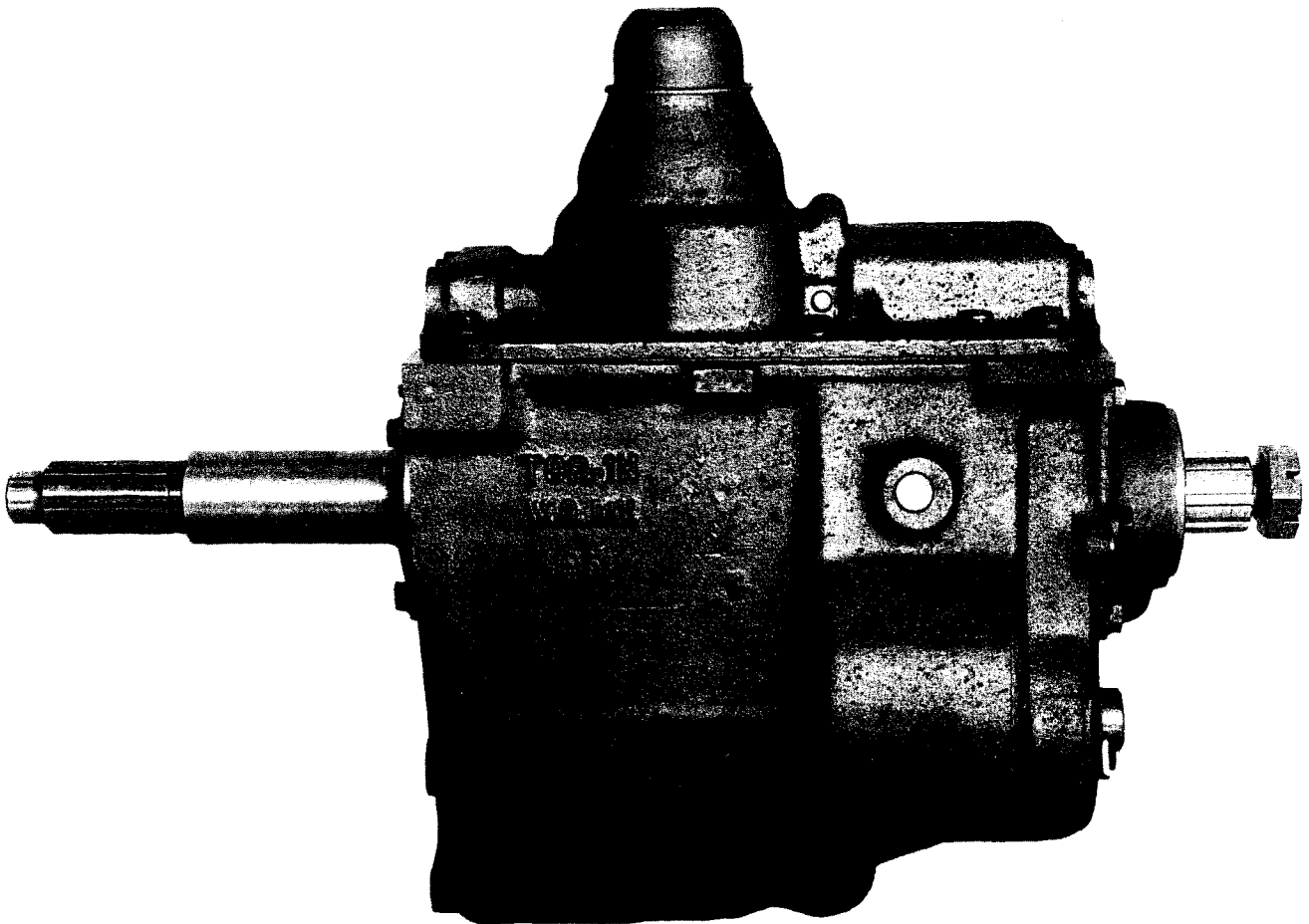


T18 & 13-01 Parts List & Exploded View



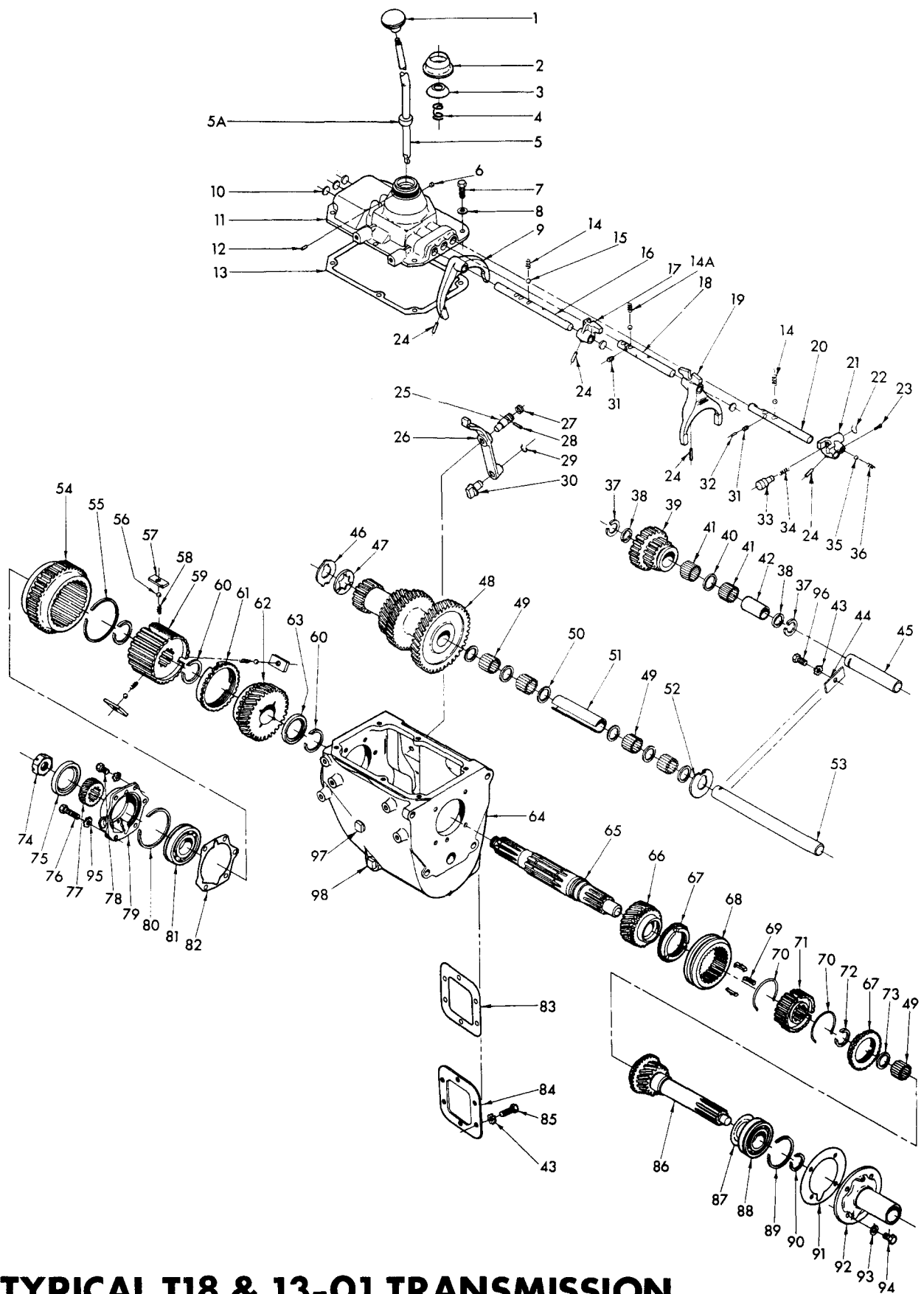
Warner Gear

Division of Borg-Warner Corporation

T18 PARTS LIST

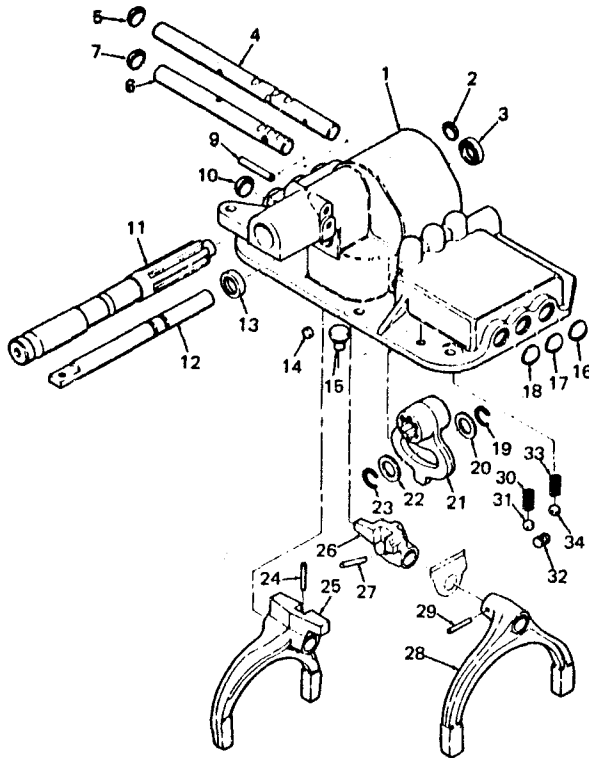
INDEX NO.	PART NUMBER	PART NAME OR DESCRIPTION	NO. REQ'D.				INDEX NO.	PART NUMBER	PART NAME OR DESCRIPTION	NO. REQ'D.			
			13-01-173	13-01-174	13-01-175	13-01-176				13-01-173	13-01-174	13-01-175	13-01-176
1	C37J-50A	Control lever handball	1				62	T18-31	Second speed gear	1	1	1	1
2	4496L	Control housing cap	1	1	1	1	63	T98-63	Second speed gear thrust washer	1	1	1	1
3	4497H	Control lever spring washer	1				64	13-01-565-001	Trans. case & magnet ass'y.	1	1	1	1
4	4498B	Control lever spring	1				65	13-01-565-003	Trans. case & magnet ass'y.	1	1	1	1
5	AC98A-2L	Control lever assembly	1				66	T18-2C	Main shaft	1	1	1	1
5A	AC98-2C	Control lever assembly	1				67	T18-11	Third speed gear	1	1	1	1
6	C8-2½C	Fulcrum ball	1				68	T87D-14	Synchronizer blocking ring	2	2	2	2
6	4572D	Taper plug	1	1	1	1		Order Ass'y.	Second & direct speed clutch sleeve	1	1	1	1
7	0000179838	3/8-16 x 7/8 Hex head bolt	6	6	6	6	69	T95-13	Shifting plate	3	3	3	3
8	0000103321	3/8 Lockwasher	6	6	6	6	70	4682AH	Synchronizer spring	2	2	2	2
9	T98A-24	First & second shift fork	1	1	1	1	71	Order Ass'y.	Third & high clutch hub	1	1	1	1
10	T18-24A	First & second shift fork					N.I.	1AT87D-2½C	Synchronizer unit assembly	1	1	1	1
11	0000103892	Expansion plug	6	6	6	6	72	4746	Clutch hub snap ring	1	1	1	1
12	T98-148	Control housing	1	1	1	1	73	T97-29	Bearing spacer	1	1	1	1
13	T98-148E	Control housing	1				74	4775W	Main shaft nut	1	1	1	1
14	4499B	Control housing pin	1				75	T9-110	Oil seal	1	1	1	1
15	T98-115	Control housing gasket	1	1	1	1	76	0000179846	3/8-16 x 1-7/8 Hex head bolt	1	1	1	1
16	T88-42	Poppet spring	3	3	3	3	77	T18-75½	Speedometer gear spacer	1	1	1	1
17	0000453593	3/8 Dia. steel ball	3	3	3	3	78	0000179839	3/8-16 x 1 Hex head bolt	4	4	4	4
18	T18-21	Low & second shift rail	1	1	1	1	79	AT98-7B	Main shaft bearing retainer	1	1	1	1
19	T18-38	First & second shift rail end	1	1	1	1	80	4745E	Bearing snap ring	1	1	1	1
20	T18-20	Third & direct shift rail	1	1	1	1	81	B308AG	Annular bearing	1	1	1	1
21	T98A-23	Third & direct shift fork	1	1	1	1	82	T98-145½C	Main shaft bearing retainer gasket	1	1	1	1
22	T19-23	Third & direct shift fork					83	T9-150	PTO opening cover gasket	1	1	1	1
23	T98A-99A	Reverse shift rail	1	1	1	1	84	T53-160B	PTO opening cover	1	1	1	1
24	T18-37	Reverse shift rail end	1	1	1	1	85	0000179835	3/8-16 x 5/8 Hex head bolt	6	6	6	6
25	4747B	Reverse plunger 'C' washer	1	1	1	1	86	T18-16C	Main drive gear	1	1		
26	0000108630	1/8 x 7/8 Cotter pin	1	1	1	1		T18-16P	Main drive gear			1	
27	0000273503	Spring pin	4	4	4	4	87	T90A-136A	Main drive gear oil baffle	1	1	1	1
28	T98-55N	Shifting arm pivot	1	1	1	1	88	B308AMG	Annular bearing	1	1	1	1
29	T98-54N	Reverse shifting arm	1	1	1	1		B308AMGS	Annular bearing				
30	T89B-108	'O' Ring	1	1	1	1	N.I.	4774	Bearing spacer ring	1	1	1	1
31	0000103565	Taper pin	1	1	1	1	89	4745E	Bearing snap ring	1	1	1	1
32	4747A	Shifting shoe 'C' washer	1	1	1	1	90	4816	Selective snap ring	*	*	*	*
33	T19-51	Reverse shifting shoe	1	1	1	1		4816A	Selective snap ring	*	*	*	*
34	T8-86	Interlock plunger	2	2	2	2		4816B	Selective snap ring	*	*	*	*
35	T97-86	Interlock pin	1	1	1	1		4816C	Selective snap ring *use as reg'd	*	*	*	*
36	T18-40	Reverse plunger	1	1	1	1	91	T98-145C	Main drive gear bearing retainer gasket	1	1	1	1
37	T9A-39	Reverse plunger spring	1	1	1	1	92	T98-6N	Main drive gear bearing retainer	1	1		
38	10-00-109-001	Steel ball	1	1	1	1		T18-6H	Main drive gear bearing retainer			1	
39	4750	Poppet spring	1	1	1	1		T98A-6	Main drive gear bearing retainer				1
40	4757	Reverse idler gear snap ring	2	2	2	2	93	0000114605	5/16 Lockwasher	4	4	4	4
41	T98-84A	Reverse idler thrust washer	2	2	2	2	94	4776A	5/16-18 x 3/4 Hex head head oil seal bolt	4	4	4	4
42	T18-10	Reverse idler gear	1	1	1	1		0000179817	5/16-18 x 3/4 Hex head bolt	4	4	4	4
43	AT18-10	Reverse idler gear assembly	1	1	1	1	95	0000114606	3/8 Lockwasher	5	5	5	5
44	T98-87A	Spacer	1	1	1	1	96	0000179837	3/8-16 x 3/4 Hex head bolt	1	1	1	1
45	F1-42	Needle roller	74	74	74	74	97	0000444592	3/4 Pipe plug	1	1	1	1
46	T98-85A	Reverse idler shaft sleeve	1	1	1	1	98	0000444592	3/4 Pipe plug	1	1	1	1
47	0000114606	3/8 Lockwasher	7	7	7	7	99	T94-95	Breather assembly	1	1	1	1
48	4501	Idler & countershaft lock plate	1	1	1	1	100	4646	Back-up light switch	1	1	1	1
49	T97-35	Reverse idler shaft	1	1	1	1	N.I.		Speedometer outlet plug				
50	T98-33	Countershaft rear thrust washer	1	1	1	1							
51	T18-32	Countershaft rear thrust washer	1	1	1	1							
52	T18-8	Countershaft gears	1	1	1	1							
53	T97-166	Bearing roller	110	110	110	110							
54	T97-29	Bearing spacer ring	6	6	6	6							
55	T98-28A	Bearing spacer tube	1	1	1	1							
56	T98-30	Front countershaft thrust washer	1	1	1	1							
57	T18-3	Countershaft	1	1	1	1							
58	T18-12	Low & second speed gear	1	1	1	1							
59	4773	Shift plate retaining ring	1	1	1	1							
60	0000453593	3/8 Dia. steel ball	3	3	3	3							
61	T98-82	Shifting plate	3	3	3	3							
N.I.	T87D-42A	Spring	3	3	3	3							
N.I.	2AT98-80	Second speed synchronizer assembly	1	1	1	1							
59	Order Ass'y.	Low & second clutch hub	1	1	1	1							
60	4745D	Snap ring	3	3	3	3							
61	T98-83	Synchronizer blocking ring	1	1	1	1							

▲ Items indicated in this column are not sold with transmission but are purchased in kits to be used in these units.



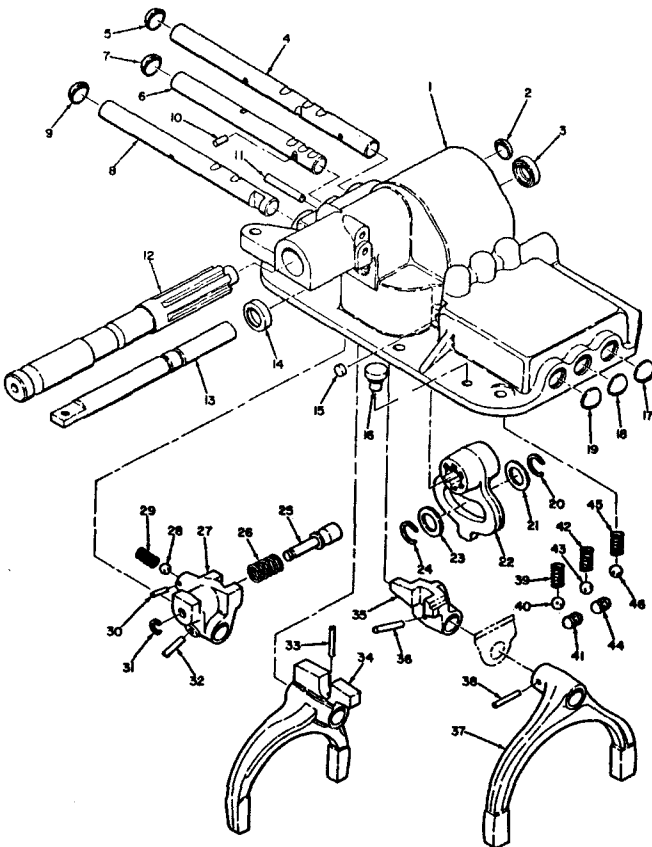
TYPICAL T18 & 13-O1 TRANSMISSION

2AT98-148E



INDEX NO.	PART NUMBER	PART NAME
1	T98-148E	Control housing
2	0000117612	Expansion plug
3	T90A-108	Oil seal
4	T18-21	Shift rail - low & second
5	0000103892	Expansion plug
6	T18-20	Shift rail - third & direct
7	0000103892	Expansion plug
8		NOT USED
9	R1-84N	Groove pin
10	0000103892	Expansion plug
11	T9-57P	Shifting shaft
12	T9-63P	Cross shift rod
13	T90A-108	Shifter shaft oil seal
14	4572D	3/8 Taper plug
15	T94-95	Breather assembly
16	0000103892	Expansion plug
17	0000103892	Expansion plug
18	0000103892	Expansion plug
19	T9-58P	Snap ring
20	T9-59P	Control lever washer
21	T9-56P	Shift lever - inner
22	T9-59P	Control lever washer
23	T9-58P	Snap ring
24	455481	Spring pin
25	T98A-23A	Shift fork - third & direct
26	T18-38	First & second shift rail end
27	0000273503	Spring pin
28	T98A-24	Shift fork - first & second
29	0000273503	Spring pin
30	T8B-42	Poppet spring
31	453593	3/8 Dia. steel ball
32	T8-86	Interlock plunger
33	T8B-42	Poppet spring
34	453593	3/8 Dia. steel ball

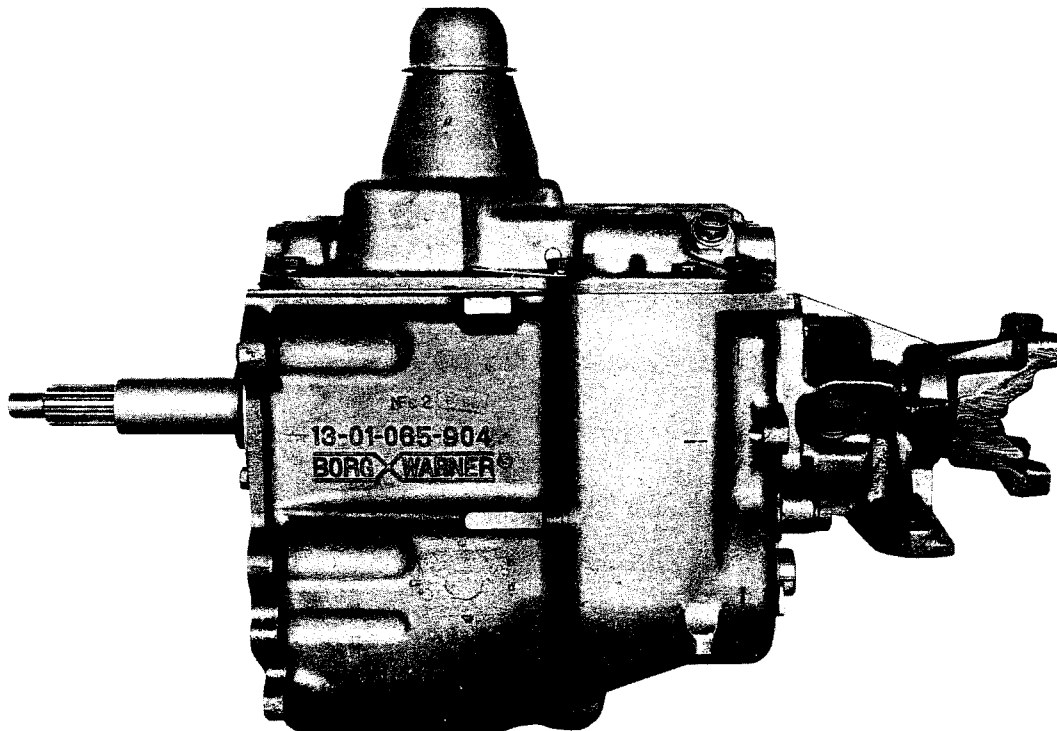
3AT98-148E



INDEX NO.	PART NUMBER	PART NAME OR DESCRIPTION
1	T98-148E	Control housing
2	0000117612	Expansion plug
3	T90A-108	Oil seal
4	T18-21	Shift rail - low & second
5	0000103892	Expansion plug
6	T18-20	Shift rail - third & direct
7	0000103892	Expansion plug
8	T98A-99A	Reverse shift rail
9	0000103892	Expansion plug
10	T97-86	Interlock pin
11	R1-84N	Groove pin
12	T9-57P	Shifting shaft
13	T9-63P	Cross shift shaft
14	T90A-108	Shifter shaft oil seal
15	4572D	3/8 Taper plug
16	T94-95	Breather assembly
17	0000103892	Expansion plug
18	0000103892	Expansion plug
19	0000103892	Expansion plug
20	T9-58P	Snap ring
21	T9-59P	Control lever washer
22	T9-56P	Shift lever - inner
23	T9-59P	Control lever washer
24	T9-58P	Snap ring
25	T18-40	Reverse plunger
26	T9A-39	Spring - reverse plunger
27	T18-37	Shift rail end - reverse
28	10-00-109-001	1/4 inch dia. Steel ball
29	4750	Poppet spring
30	0000108630	1/8 x 7/8 Cotter pin
31	4747B	Reverse plunger 'C' washer
32	0000273503	Spring pin
33	0000273503	Spring pin
34	T98A-23	Shift fork - third & direct
35	T18-38	First & second shift rail end
36	0000273503	Spring pin
37	T98A-24	Shift fork - first & second
38	0000273503	Spring pin
39	T8B-42	Spring
40	0000453593	3/8 inch dia. Steel ball
41	T8-86	Interlock plunger
42	T8B-42	Spring
43	0000453593	3/8 inch dia. Steel ball
44	T8-86	Interlock plunger
45	T8B-42	Spring

Warner Gear

T18 Four-Speed Manual Transmission



The T18 is a four-speed, countershaft transmission, synchronized in three forward speeds (2nd, 3rd and 4th). The gears are of helical and spur design. Heavy duty strut-type synchronizers are used for easier shifting. This unit is used in gasoline and diesel engine applications such as light trucks, compactors, on-highway tow tractors and other vehicles of similar size and weight.

It is one of many manufactured by Warner Gear, division of Borg-Warner Corporation, in its modern facility at Muncie, Indiana where transmission development and engineering has been a tradition since 1901. Intensive research, directed by an awareness of trends and requirements, has been responsible for marked advances in manufacturing procedures such as numerically-controlled

machining centers for established products and for new small run production. Quality control and inspection facilities are an integral function of all manufacturing procedures. For additional information, contact the Marketing Department.

Warner Gear

Division of Borg-Warner Corporation

THE MATERIAL in this manual covers a typical T18 transmission. You may note variations which are not covered in this manual. Only one part number is given for most parts and in these cases, the part is usually the same in any T18

transmission in which it is used. More than one part number is given for some parts and in these cases, the original equipment manufacturer should supply information required for selecting the proper part.

DISASSEMBLY OF TRANSMISSION

CONTROL HOUSING

Shift control lever to neutral position. Remove control housing to case cap screws (7) and lift control assembly from transmission.

Unscrew cap (2) then remove lever, washer, spring and pin (12) from housing.

Drive the four spring pins from forks and rails. The two outer rails should remain in neutral position while the center shift rail is driven from front towards rear of housing. Cover poppet spring and ball pocket to prevent these parts from springing out as rail is removed. The expansion plugs will be forced out as shift rails are driven out. Mark front end of rails and front face of forks to insure correct replacement during assembly.

Drive the other two rails from housing. Catch ball and mark parts as described above.

Remove interlock plungers from control housing.

MAIN DRIVE GEAR AND MAIN SHAFT

Remove cap screws (94) from main drive gear bearing retainer (92). Pull retainer from transmission.

Remove main drive gear snap ring (90) from in front of bearing. Pull main drive gear and bearing (88) forward to permit using a bearing puller and pull bearing from main drive gear.

Remove cap screws from main shaft bearing retainer (79) and pull retainer from case. Some models may use studs and nuts in this location. Remove speedometer drive gear from main shaft.

Pull main shaft bearing (81) from shaft and case.

Separate main drive gear (86) from main shaft (65) and lift main shaft assembly out through top of case.

Remove main drive gear, bearing spacer (73) and rollers (49) from case.

Remove clutch hub snap ring (72) and slide the synchronizer unit and third speed gear (66) forward from main shaft.

Remove the snap ring from behind the low and second speed clutch hub (59) then slide the second speed synchronizer assembly from main shaft.

Remove the snap ring (60) from behind the second speed gear (62) and slide gear from main shaft.

Remove the second speed thrust washer (63) and snap ring (60) from main shaft.

IDLER AND COUNTERSHAFT GEAR

Drive the taper pin (28) from transmission case then remove shifting arm pivot (25) and shifting arm (26).

Remove idler and countershaft lock plate (44).

Drive idler shaft (45) and countershaft (53) rearward to insure that the press fit on rear of each shaft is out of case. Further driving is not recommended as loose bearing rollers may drop down and be damaged. Pull shafts from transmission and remove both gears being careful to prevent loose parts from falling from countershaft gear.

Remove one of the two snap rings from idler gear, then permit sleeve, bearing rollers and spacer to slide from gear.

SECOND SPEED SYNCHRONIZER

Preferably, the low and second gear splines and clutch hub splines should be replaced in their original relationship; therefore, it is suggested that these parts be marked prior to disassembly to insure correct reassembly of these parts.

Support clutch hub (59) on a block, wrap a cloth around the assembly to catch balls and springs as they are released and press the low and second speed gear (54) from hub.

Remove shift plate retaining ring (55) from hub groove.

THIRD AND FOURTH SYNCHRONIZER UNIT

Mark hub (71) and sleeve (68) to permit splines and faces of these parts to be assembled as they were originally.

Remove the two springs (70).

Slide sleeve from hub and shifting plates (69) will fall from the assembly.

CLEAN AND INSPECT PARTS

Wash and air dry all parts. Do not wipe parts with rags as

lint from these rags will always remain on parts.

Shifting fork grooves and splines of gears, hubs and shafts should be smooth and should not show wear. Excessive backlash between hub and sleeve splines indicates wear. Springs should not be bent or mutilated. Gears should not be broken, cracked, chipped or pitted. Thrust washers should be smooth and not worn. Bearing rollers and annular bearings should not be pitted or show damage of any kind and should roll free and smooth.

ASSEMBLY OF TRANSMISSION

THIRD AND FOURTH SYNCHRONIZER UNIT

Assemble sleeve (68) to hub (71) with splines and faces positioned in their original relationship. A one thirty-second inch wide groove around hub outside diameter is approximately one third of the distance from one end of the hub and two thirds of the distance from the other end of hub. Two identification grooves on sleeve chamfered face should be assembled to the end of hub which is approximately two thirds of the distance from the one thirty-second inch groove.

Move sleeve to a position on hub to permit assembling the three shifting plates (69) into the slots in hub, then move sleeve to fully engage hub splines.

Hook one spring (70) over one of the shifting plates and wrap around inside of hub over all three plates. Hook the other spring over the opposite end and opposite side of the same shifting plate and wrap in the opposite direction around inside of hub over the three plates.

SECOND SPEED SYNCHRONIZER

Assemble shift plate retaining ring (55) into hub groove.

Support clutch hub (59) on end nearest to retaining ring. A block 3-1/2 inches in diameter and 1-3/16 inches thick will position the hub to permit easy assembly of the remaining components.

A poppet spring and ball is sometimes assembled in a drilled hole in clutch hub and when used, should be held in position in clutch hub as gear is assembled over hub splines and positioned at rest on bench. Use marks to relocate splines. Should binding occur, try mating another set of splines to obtain a free fit.

Assemble a shifting plate (57), a spring (58) and ball (56) into one of the three hub slots. Compress ball and spring and press shifting plate down until poppet ball is held in position by the sleeve. Repeat this operation until the three shifting plates, poppet springs and balls are started into the sleeve.

Press down on hub and lift on sleeve to complete the assembly.

REVERSE IDLER GEAR

Assemble the sleeve (42) into reverse idler gear (39). Place the spacer (40) over the sleeve and assemble a row of thirty-seven bearing rollers into each end of idler gear. Assemble a thrust washer (38) and snap ring (37) into each end of gear. The sleeve should be free when rotated.

Lower reverse idler gear into case and hand assemble idler shaft (45) from rear of case and through gear. Align slot in shaft to permit lock plate to be assembled, then drive shaft into case. The lock plate slot should remain fully exposed.

COUNTERSHAFT GEARS

A pilot shaft 9.730 inches long and 1.134 inches in diameter should be made to retain bearing rollers during assembly procedure.

Assemble the long spacer (51) into countershaft gear bore.

Slide the pilot shaft through spacer in gear bore. Assemble a spacer washer (50), a row of twenty-two bearing rollers (49), a second spacer washer, a second row of bearing rollers and a third spacer at each end of the long spacer inside of gear.

Coat face of thrust washer (47) with low melting point grease and align washer tangs with gear slots as washer is positioned over shaft and against face of gear. The pilot shaft should be flush with the thrust washer on end of gear and the other end of shaft should be flush with gear face.

Enter small end of countershaft (53) from rear of case and place the rear thrust washer (46) over shaft and against case. The end of countershaft should be made flush with front face of thrust washer. Use a light coating of low melting point grease to help hold thrust washer in position.

Coat countershaft thrust washer (52) with low melting point grease and align washer tang with the cast "V" slot as washer is assembled to case front thrust face.

Carefully lower countershaft gear assembly into position in case between the two thrust washers. Align gear bore with countershaft and hand assemble countershaft into gear as pilot shaft is pushed out through front of case. Align lock plate slot and drive countershaft into case, leaving slot fully exposed.

Assemble lock plate (44), lockwasher (43) and bolt (96) to retain idler shaft and countershaft.

MAIN DRIVE GEAR

Coat main drive gear bore with low melting point grease and assemble twenty-two bearing rollers (49) in gear bore.

Assemble main drive gear into case front bore and assemble the fourth speed blocking ring (67) over main drive gear cone.

MAIN SHAFT

Place main shaft, with threaded end up, in a vise which has been fitted with soft jaws.

Assemble a main shaft snap ring (60) in the third groove from threaded end of shaft. Assemble the recessed side of second speed gear thrust washer (63) over snap ring.

Assemble main shaft second speed gear (62) against washer. Assemble a main shaft snap ring (60) in groove behind gear.

Place a synchronizer blocking ring (61) over the second speed gear cone.

Assemble the second speed synchronizer assembly over splines of main shaft, aligning the three blocking ring cut-outs with shifting plates. The low and second gear shift fork groove should be located to rear of transmission.

Assemble a main shaft snap ring (60) in main shaft groove behind clutch hub.

Invert main shaft and assemble main shaft third speed gear (66) against main shaft shoulder.

Assemble a blocking ring (67) on cone of third speed gear.

Assemble third and direct synchronizer unit over main shaft splines. Align the three blocking ring slots with shifting plates and position the end of the hub which has the long chamfer to front of transmission.

Assemble the clutch hub snap ring (72) in main shaft groove in front of synchronizer unit.

Assemble the bearing spacer (73) over main shaft and against shoulders.

Lower main shaft assembly into position in transmission and rest on countershaft gear. Use careful manipulation and not force to assemble main drive gear over main shaft. The blocking ring slots should be aligned with shifting plates.

MAIN SHAFT BEARING AND RETAINER

A tool which bridges over the third and fourth synchronizer assembly should be used to prevent blocking ring damage while the bearings are being pressed or driven into position.

Assemble bearing snap ring (80) in main shaft bearing (81) snap ring groove. Press main shaft bearing into position in rear bore of case.

Assemble speedometer gear (77) over main shaft.

Press a new oil seal (75) into bearing retainer (79). Assemble bearing retainer gasket (82) and bearing retainer and torque bolts to 35-45 pounds feet.

MAIN DRIVE GEAR BEARING AND RETAINER

Assemble the oil baffle (87) over main drive gear. Oil baffle should offset away from bearing.

Assemble bearing snap ring (89) into main drive gear bearing (88) groove. Press bearing onto shaft and into case bore. Select the thickest main drive gear snap ring (90) which will fit and assemble into main drive gear groove in front of bearing.

Assemble gasket (91), bearing retainer (92), lockwashers and bolts to retain main drive gear bearing. Retainer and gasket should have oil return holes aligned with case oil return hole.

Bolt torque for 5/16 inch retainer bolts should be 17-20 pounds feet.

REVERSE SHIFTING ARM

Assemble reverse shifting shoe (30) into reverse shifting arm (26) and snap shifting shoe "C" washer (29) into groove of shifting shoe.

Assemble the oil seal (27) into shifting arm pivot (25) groove.

Engage shifting shoe into reverse idler gear and slide shifting arm pivot into case and into shifting arm. Align groove around pivot with hole in case and drive the taper pin (28) into case.

CONTROL HOUSING

Slide the low and second shift rail (16) into control housing and through first and second shift rail end (17) and low and second shift fork (9). Poppet spring (14) and poppet ball (15) should be assembled into control housing spring pocket. Use a punch to hold ball and spring down to permit shift rail to be moved into position over ball and spring. Replace spring pins (24) to retain fork and rail end to rail. Move rail to neutral position.

Slide one interlock plunger (31) into housing drilled passage and into contact with the low and second shift rail.

Place interlock pin (32) in drilled hole through third and direct shift rail. Slide rail into housing and through third and direct shift fork. Hold poppet ball and spring down to permit assembling rail over these parts. Handle parts in a

manner to prevent interlock pin and interlock plunger from sliding out of position. Replace spring pin, then move shift rail to neutral position.

Slide a second interlock plunger into housing passage and into contact with third and direct shift rail.

Assemble reverse plunger spring (34) and reverse plunger (33) into reverse shift rail end (21) and replace "C" washer (22) in plunger groove. Replace steel ball (35), poppet spring (36) and cotter pin (23) in shift rail end.

Assemble reverse shift rail (20), reverse shift rail end (21), poppet spring, poppet ball and spring pin into control housing.

Replace all expansion plugs (10).

Move all gears and synchronizers to neutral position and place the gasket (13) on case face.

Move shift forks to neutral position and lower control housing into position, aligning shift forks with mating fork grooves and reverse shifting arm.

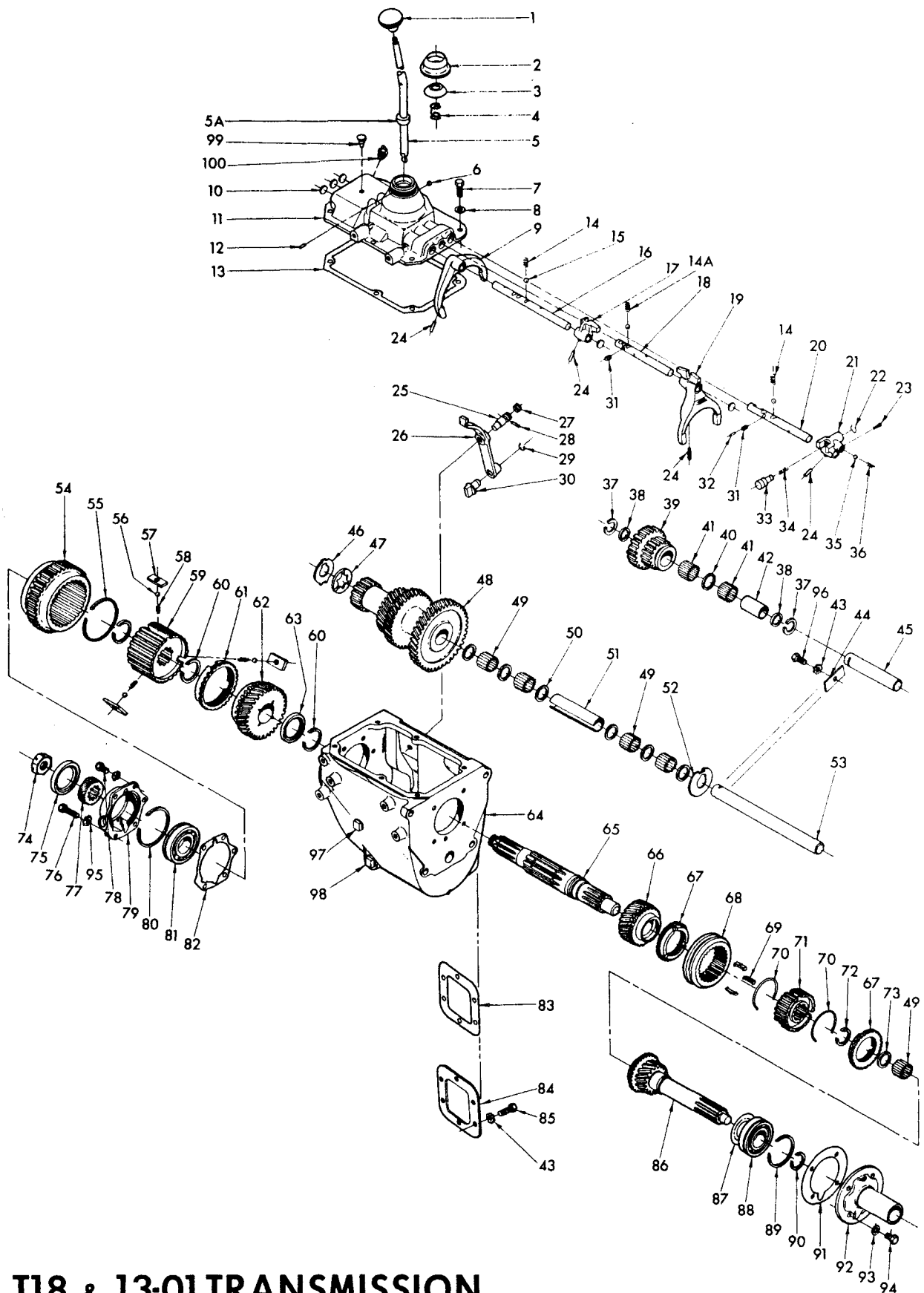
Replace control housing to case bolts (7) and lockwashers. Bolt torque should be 17-20 pounds feet.

Assemble shift lever (5), control housing pin (12), spring (4), spring washer (3) and cap (2).

Shift control lever to each position and check that each gear ratio is engaged and that gears turn free.

LUBRICANT: Use only straight mineral oil SAE 140 above freezing, SAE 90 between 32°F and 0°F and SAE 80 when temperature is below 0°F.

NOTE: Late model T18 transmissions will use the new 13-01 model number. The transmission part number under the new system will be 13-01-000-001, 002, 003 etc.



T18 & 13-01 TRANSMISSION

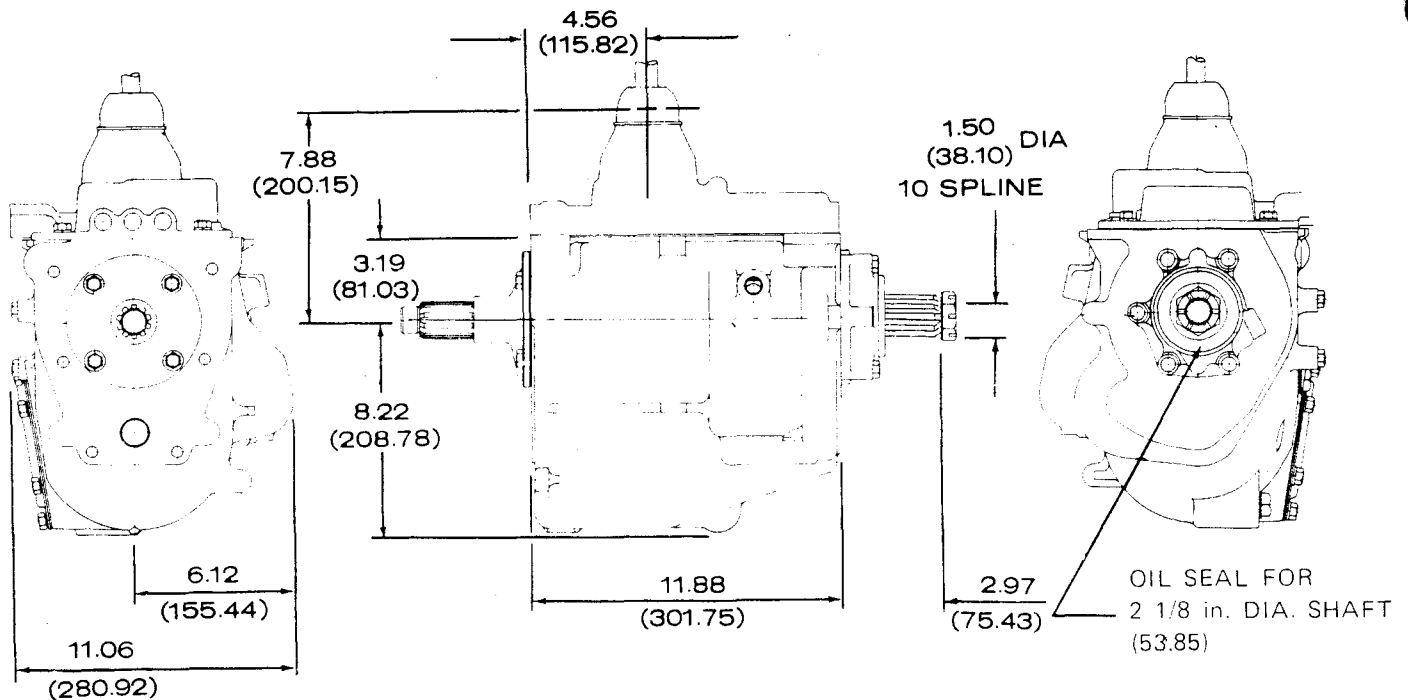
TYPICAL T18 & 13-01 PARTS LIST

CAUTION: This parts list is general and is not accurate for all models.

INDEX NO.	W.G. PART NO.	DESCRIPTION	NO. REQ.	INDEX NO.	W.G. PART NO.	DESCRIPTION	NO. REQ.
1	C37J-50A	Control lever handball	1	63	T98-63	Thrust washer, second speed gear	1
2	4496L	Control housing cap	1	64		Transmission case (17 different types)	1
3	4497H	Control lever spring washer	1	65		Main shaft (13 different types)	1
4	4498B	Control lever spring	1	66	T18-11	Main shaft third speed gear	1
5	AC98-2C	Control lever assembly	1		T18A-11		1
	AC98A-2L	Control lever assembly - straight	1		T19-11		1
5a	C8-2½C	Fulcrum ball	1		T18B-11		1
6	4572D	Taper plug	1	67	T87D-14	Synchronizer blocking ring	2
7	0000179838	3/8-16 x 7/8 Hex head bolt	6		T19-14		2
8	0000103321	3/8 Lockwasher	6	68	Order ass'y.	Third & direct clutch sleeve(part of 71)	1
9	T18-24	Shift fork, first & second	1	69	T95-13	Shifting plate	3
	T18-24A		1		T16-13		3
10	0000103892	Expansion plug	6	70	4682AH	Synchronizer spring	2
11	T18-148	Control housing	1		4682AN		2
	T18-148D		1	N.I.	1AT87D-2½C	Third & high synchronizer assembly	1
	T18-148F		1		AT19-2½		1
	T98-148		1	71	Order ass'y.	Third & direct clutch hub	1
12	4499B	Control housing pin	1	72	4746	Clutch hub snap ring	1
13	T98-115	Control housing gasket	1	73	T97-29	Bearing spacer	1
14	T8B-42	Poppet spring	2	74	4775S	Mainshaft nut	1
14a	T98A-42	Poppet spring, third & direct	1		4775L		1
15	0000453593	3/8 steel ball	3	75	T18-110A	Oil seal	1
16	T18-21	Shift rail, low & second	1		T9-110		1
	T98-21		1		3-110A		1
17	T98-38	Shift rail end, first & second	1		5G-110		1
	T18-38		1	76	0000179846	3/8-16 x 1-7/8 Hex head bolt	1
18	T98A-20A	Shift rail, third & direct	1		0000179884	1/2-13 x 1-3/8 Hex head bolt	1
	T18-20		1	77	T18-169	Speedometer drive gear	1
19	T18-23	Shift fork, third & direct	1		T18-169A		1
	T19-23		1		T18-169B		1
20	T98-99	Shift rail, reverse	1		T98-169		1
	T98-99A		1	N.I.	T18-75½	Speedometer gear spacer	1
	T18-99		1		T98-75½		1
	T18-99A		1	78	0000179839	3/8-16 x 1 Hex head bolt	4
21	T18-37	Shift rail end, reverse	1	79		Main shaft bearing retainer(5 diff. types)	1
	T98-37		1	80	4745E	Bearing snap ring	1
	4747B	Reverse plunger "C" washer	1	81	B308AMG	Annular bearing	1
22	0000108630	1/8 x 7/8 Cotter pin	1		B308AG		1
23	0000273503	3/8 x 1-1/8 Spring pin	1		B308AGS		1
24	T98-55N	Shifting arm pivot	1		B308AFG		1
25	T98-54N	Reverse shifting arm	1	82	T18-145½A	Main shaft bearing retainer gasket	1
26	T89B-108	Oil seal	1		T18-145½C		1
27	0000103565	Taper pin	1		T18-145½		1
28	4747A	Shifting shoe "C" washer	1	83	T9-150	Power opening cover gasket	1
29	T19-51	Shifting shoe, reverse	1	84	T53-160B	Power opening cover	1
30	T8-86	Interlock plunger	2	85	0000179835	3/8-16 x 5/8 Hex head bolt	6
31	T97-86	Interlock pin	1	86		Main drive gear (6 different types)	1
32	T18-40	Reverse plunger	1	87	T90A-136A	Main drive gear oil baffle	1
33	T9A-39	Reverse plunger spring	1	88	B308AMGS	Annular bearing	1
34	0000147485	Steel ball	1	89	4745E	Bearing snap ring	1
35	4750	Poppet spring	1	90	4816	Main drive gear snap ring-selective	1
36	4757	Reverse idler gear snap ring	2		4816A		1
37	T98-84A	Reverse idler thrust washer	2		4816B		1
38	AT18-10	Reverse idler gear	1		4816C		1
39	13-01-584-001	Reverse idler gear & bushing	1	91	T98-145C	Main drive gear bearing retainer gasket	1
40	T98-87A	Reverse idler roller spacer	1	92	T98A-6	Main drive gear bearing retainer	1
41	F1-42	Bearing roller	74		13-01-027-007		1
42	T98-85A	Reverse idler shaft sleeve	1		13-01-027-008		1
	13-01-127-001	Reverse idler gear bushing	1		T18-6		1
43	0000114606	3/8 lockwasher	1	93	0000114605	5/16 Lockwasher	4
44	T97-48	Idler & countershaft lock plate-2 hole	1	94	4776A	5/16-18 x 3/4 Hex head oil seal bolt	4
	4501	Idler & countershaft lock plate-1 hole	1		0000179817	5/16-18 x 7/8 Hex head bolt	4
45	T97-35	Reverse idler shaft	1	95	0000103321	3/8 Lockwasher	5
46	T98-33	Countershaft thrust washer, rear	1		0000103323	1/2 Lockwasher	5
47	T18-32	Countershaft thrust washer	1		0000114606	3/8 Lockwasher	5
48	T18-8	Countershaft gears	1		0000135629	1/2 Lockwasher (used with studs)	4
	T18B-8		1		0000120371	1/2-20 Nuts (used with studs)	4
49	T97-166	Bearing roller	88	N.I.	T18-27	Oil tube	1
50	T97-29	Countershaft gear bearing spacer	6	96	0000179837	3/8-16 x 3/4 Hex head bolt	1
51	T98-28A	Countershaft bearing spacer	1	97	0000444592	3/4 Pipe plug filler plug	1
52	T98-30	Countershaft thrust washer, front	1	98	0000444592	3/4 Pipe plug drain plug	1
53	T18-3	Countershaft	1	99	T94-95	Breather	1
54	T18-12	Low & second speed gear	1	N.I.	4544Y	Stud (case to rear retainer)	4
55	4773	Shift plate retaining ring	1		4544P		4
56	0000453593	3/8 Diameter steel ball	1	N.I.	4915	Magnet	1
57	T98-82	Shifting plate	1	N.I.	4903	Magnet adhesive	1
58	T87D-42A	Spring	3	100	AT18-102	Back-up light switch	1
	T90A-42A		1		AT19-102		1
59	AT18-80	Low & second speed clutch hub	1				
	AT98-80		1				
60	4745D	Main shaft snap ring	3				
61	T98-83	Synchronizer blocking ring	2				
62	T18-31	Main shaft second speed gear	1				
	T18B-31		1				

N.I. - NOT ILLUSTRATED

Installation Drawing



GENERAL SPECIFICATIONS

	<u>T18</u>	<u>T18A</u>	<u>T18B</u>	<u>T18C</u>
1st	6.32:1	4.02:1	4.32:1	4.02:1
2nd	3.09:1	1.97:1	2.26:1	2.41:1
3rd	1.69:1	1.41:1	1.51:1	1.41:1
4th	1.00:1	1.00:1	1.00:1	1.00:1
Rev.	7.44:1	4.73:1	5.08:1	4.73:1

Rated input torque 425 lb. ft. (44.93 kg. m.)
 Center distance 4.29 in. (108.97 mm)
 Oil capacity 6.5 U.S. pts. (3.08 liters)
 Basic dry weight 148 lb. (67.1 kg.)
 Case Cast iron
 Gears Helical & spur
 Bearings Anti-friction
 Power takeoff mounting R.H. S.A.E.

NOTE: All specifications and descriptive data shown
 are nominal and subject to change without notice.
 Specific applications should be referred to Warner
 Gear for assistance.

Parenthetical dimensions are expressed metrically.