



Heavy 7 Speed PS110-7A/7B & PS145-7A

Parts Catalog

Bulletin No. T210-PS145-7

June 1993



For parts or service call us
Pro Gear & Transmission, Inc.



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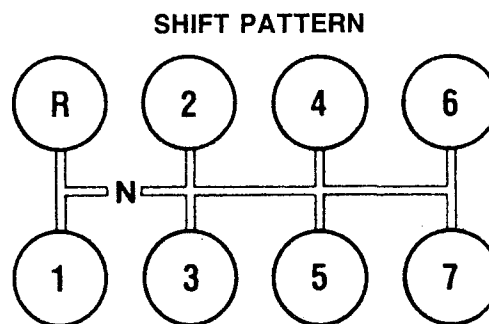
Orlando, FL 32805



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RATIO TABLE			
SPEEDS	MODELS		
	PS110-7A	PS145-7A	PS110-7B
1st	10.13	10.13	12.266
2nd	5.99	5.99	7.000
3rd	3.56	3.56	4.133
4th	2.57	2.57	2.541
5th	1.84	1.84	1.840
6th	1.33	1.33	1.335
7th	1.00	1.00	1.000
Rev.	10.13	10.13	12.266



IDENTIFICATION

The Name Plate (NP-96) affixed to the RIGHT side of the Transmission is stamped with information:

In requesting more information on these transmissions, please furnish this information.

SERIAL

B/M No. MODEL

Abbreviations used in this parts list include:

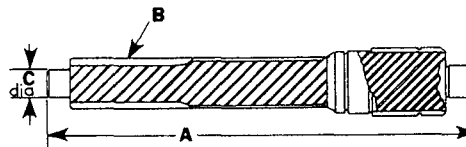
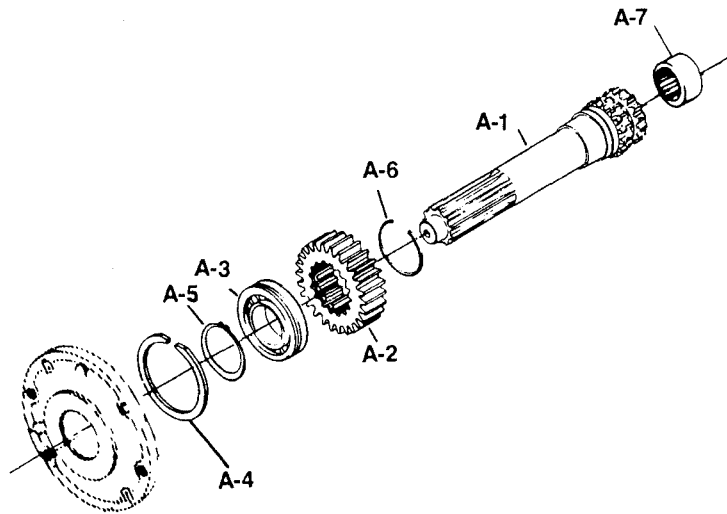
N.S. — Not Shown
 N.S.S. — Not Sold Separately
 N.R. — Not Required
 A.R. — As Required

Models PS110-7A/7B & PS145-7A

GEARS and RELATED PARTS

T210-PS145-7

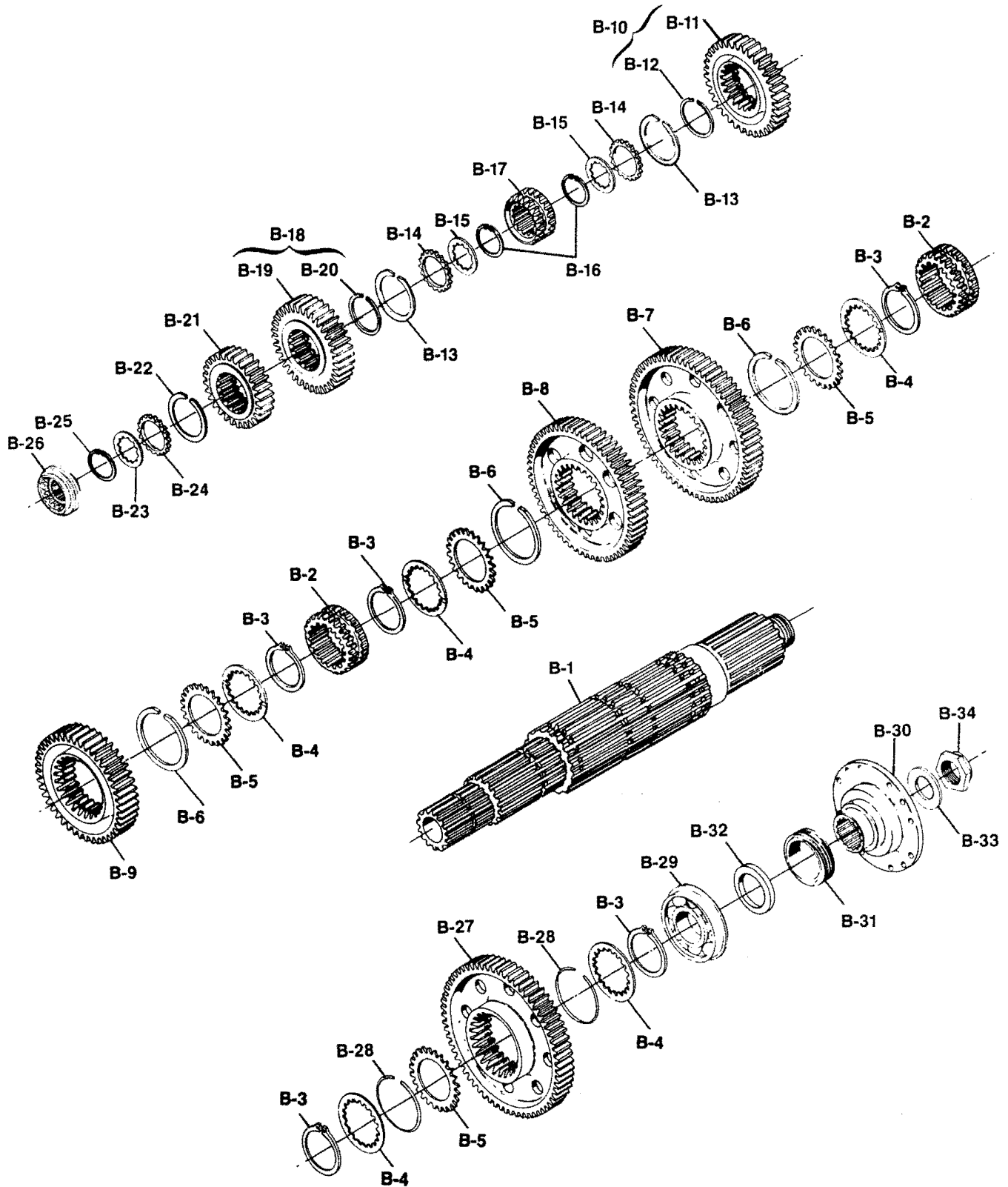
Ref. No.	Part No.	Part Description	Qty
A-1	97-35-102-1X *	Input Shaft - 2.000"-10 #306 pilot	1
	97-35-105-1X *	Input Shaft - 1.750"-10 #306 pilot	1
	97-35-106-1X *	Input Shaft - 1.750"-10 #205 pilot	1
A-2	97-36-1-1X *	Gear - Mainshaft Drive (24T) (For PS110/145-7A)	1
	97-36-3-1X *	Gear - Mainshaft Drive (24T) (For PS110-7B)	1
A-3	550992	Bearing - Drive Gear/Input Front	1
A-4	97-381-41	Snap Ring - Input Shaft Bearing Cap Retaining	1
A-5	97-381-42	Snap Ring - Input Shaft Front Bearing Retaining	1
A-6	97-381-44	Snap Ring - Input Shaft Drive Gear	1
A-7	550953	Bearing - Drive Gear/Input Shaft Pocket Roller	1



DRIVE GEAR TABLE

A LENGTH	B SPLINE DIA. TEETH	C PILOT SIZE	SAE NO.	INPUT SHAFT PART NO.	SERVICE WITH
15.020"	2.000"-10	1.180"	306	97-35-102	97-35-102-1X*
15.020"	1.750"-10	1.180"	306	97-35-105	97-35-105-1X*
15.020"	1.750"-10	.983"	205	97-35-106	97-35-106-1X*

* Includes (1) each Snap Rings 97-381-44 and 97-381-42

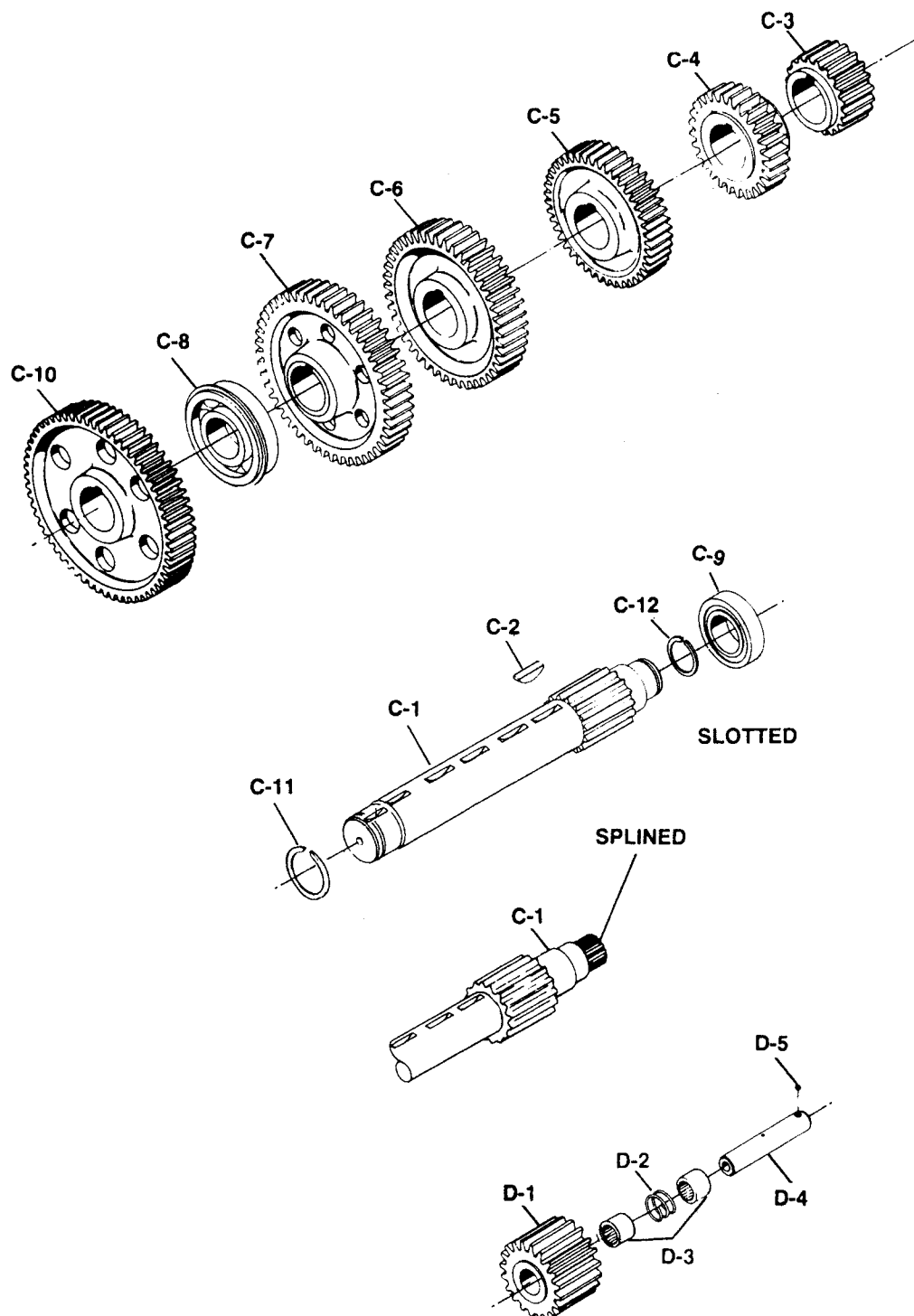




Models PS110-7A/7B & PS145-7A GEARS and RELATED PARTS

T210-PS145-7

Ref. No.	Part No.	Part Description	Qty
		Mainshaft Group	
B-1	97-362-67	Mainshaft	1
B-2	97-465-59	Clutch Collar - 1st, Reverse, 2nd and 3rd Mainshaft (48T)	2
B-3	98-381-1	Snap Ring - External - Large	5
B-4	330959	Thrust Washer - Internal - Large (48T)	5
B-5	330810	Thrust Washer - External - Large (24T)	4
B-6	98-381-2	Snap Ring - Internal - Large	3
B-7	97-8-113	Gear - 1st (64T)	1
B-8	97-8-134	Gear - 2nd (58T) (For PS110-7A, PS145-7A)	1
	97-8-209	Gear - 2nd (56T) (For PS110-7B)	1
B-9	97-8-136	Gear - 3rd (48T) (For PS110-7A, PS145-7A)	1
	97-8-211	Gear - 3rd (46T) (For PS110-7B)	1
B-10	97-8-235-1X	Gear - 4th (40T) (For PS110-7A, PS145-7A)	1
	97-8-238-1X	Gear - 4th (38T) (For PS110-7B)	1
B-11	N.S.S.	Gear - 4th	1
B-12	97-381-43	Snap Ring - 4th Gear Internal Stop	1
B-13	97-381-1	Snap Ring - Internal - Small	2
B-14	330814	Thrust Washer - External - Small (20T)	2
B-15	330960	Thrust Washer - Internal - Small (36T)	2
B-16	97-381-45	Snap Ring - External - Small	2
B-17	97-465-56	Clutch Collar - 4th and 5th Mainshaft (20T)	1
B-18	97-8-234-1X	Gear - 5th (34T) (For PS110-7A, PS145-7A)	1
	97-8-237-1X	Gear - 5th (32T) (For PS110-7B)	1
B-19	N.S.S.	Gear - 5th	1
B-20	97-381-43	Snap Ring - 5th Gear Internal Stop	1
B-21	97-8-232	Gear - 6th (24T) (For PS110-7A, PS145-7A)	1
	97-8-236	Gear - 6th (26T) (For PS110-7B)	1
B-22	97-381-2	Snap Ring - Internal	1
B-23	330961	Thrust Washer - Internal (22T)	1
B-24	330806	Thrust Washer - External (17T)	1
B-25	97-381-46	Snap Ring - External	1
B-26	97-465-57	Clutch Collar - 6th and 7th Mainshaft	1
B-27	97-8-182	Gear - Reverse (64T)	1
B-28	97-381-32	Snap Ring - Internal - Large	2
B-29	550925	Bearing - Rear	1
B-30	See Tab Bills	Flange or End Yoke - U-Joint (See chart on page 21)	1
B-31	See Tab Bills	Speedometer Drive Gear/Electronic Signal Gear	1
or	97-37-34	Spacer (Used in place of Speedometer Gear)	1
B-32	97-37-33	Spacer - Bearing	1
B-33	330734	Flat Washer	1
B-34	545065	Nut - Mainshaft - 1 3/4"-16 Self-locking	1

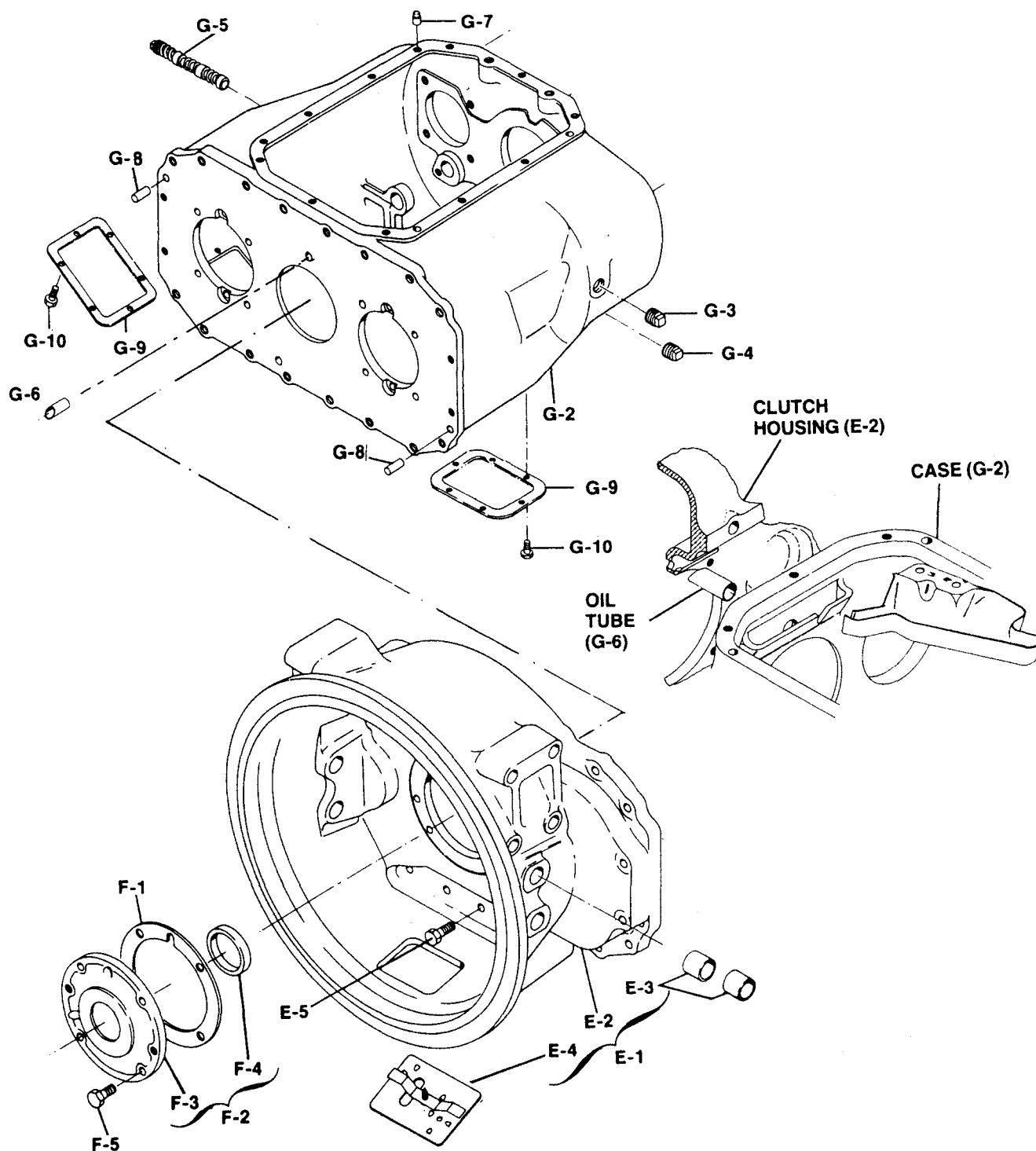




Models PS110-7A/7B & PS145-7A GEARS and RELATED PARTS

T210-PS145-7

Ref. No.	Part No.	Part Description	Qty
Countershaft Group			
C-1	97-30-74	(15T) - Splined for P.T.O. - (Standard location - Right Side)	1
	97-30-75	(15T) - Slotted for Pump - (Standard location - Left Side)	1
C-2	500010-8	Woodruff Key #29	12
C-3	97-196-92	2nd Gear (23T) (For PS110-7A, PS145-7A)	2
	97-196-154	2nd Gear (23T) (For PS110-7B)	2
C-4	97-196-19	3rd Gear (32T) (For PS110-7A, PS145-7A)	2
	97-196-32	3rd Gear (32T) (For PS110-7B)	2
C-5	97-196-95	4th Gear (37T) (For PS110-7A, PS145-7A)	2
	97-196-156	4th Gear (43T) (For PS110-7B)	2
C-6	97-196-109	5th Gear (44T) (For PS110-7A, PS145-7A)	2
	97-196-158	5th Gear (50T) (For PS110-7B)	2
C-7	97-196-110	6th Gear (43T) (For PS110-7A, PS145-7A)	2
	97-196-173	6th Gear (56T) (For PS110-7B)	2
C-8	550031	Bearing - Front	2
C-9	550959	Bearing - Rear	2
C-10	97-1-50	Drive Gear (57T) (For PS110-7A, PS145-7A)	2
	97-1-56	Drive Gear (69T) (For PS110-7B)	2
C-11	97-381-30	Snap Ring - Front Bearing Retainer	2
C-12	54-381-1	Snap Ring - Rear Bearing Retainer	2
Reverse Idler Group			
D-1	97-5-1	Gear - Reverse Idler (21T)	2
D-2	97-37-1	Spacer - Bearing	2
D-3	550886	Bearing	4
D-4	97-60-1	Shaft - Idler Gear	2
D-5	500566-8	Lockball - 9/32"	2

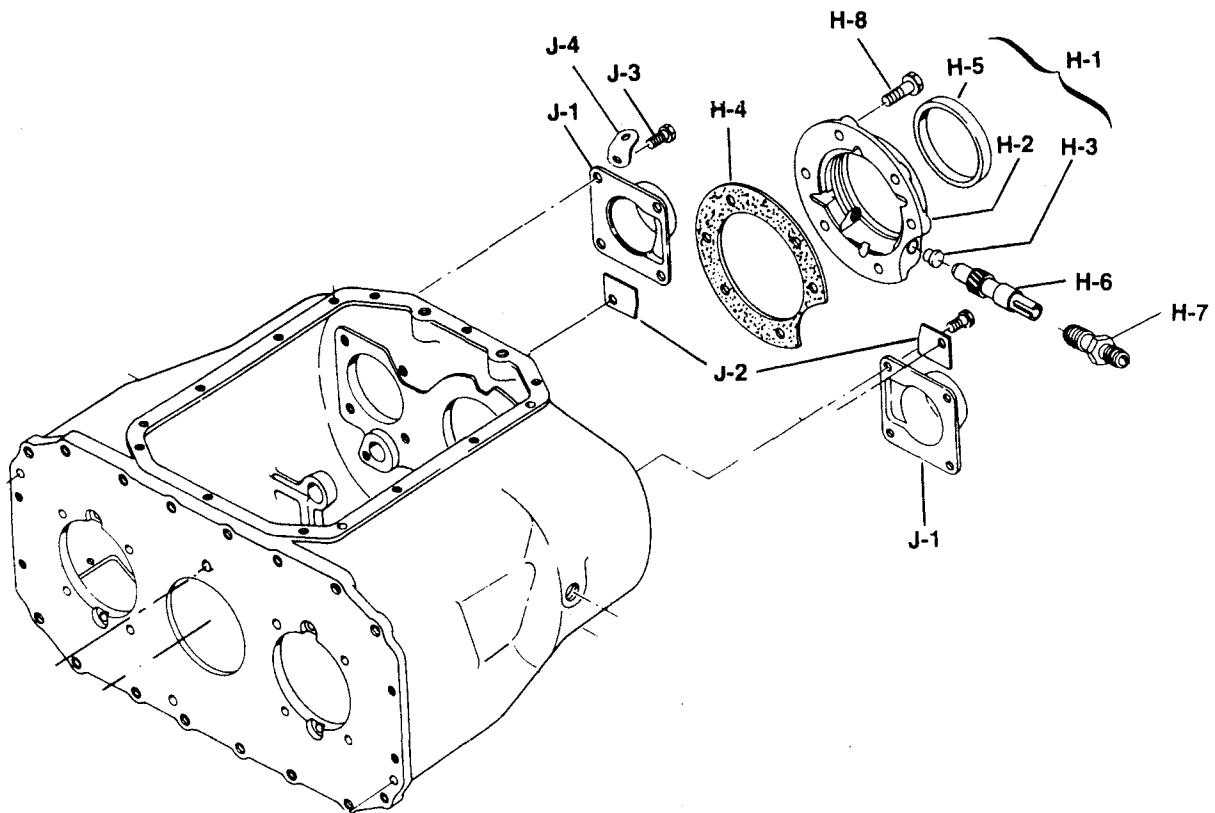




Models PS110-7A/7B & PS145-7A CASE, BEARING CAP and RELATED PARTS

T210-PS145-7

Ref. No.	Part No.	Part Description	Qty
Clutch Housing Group			
E-1	See Tab Bills	Clutch Housing Assembly - (See Chart on Page 17)	1
E-2	N.S.S.	Clutch Housing	1
E-3	97-24-8	Bushing - Clutch Release Shaft	8
E-4	97-96-18-1X	Hand Hole Cover Assembly	1
E-5	545008-4	Bolt - 5/8"-11 x 2" Hex Head Self-locking	16
and	545103	Bolt - 3/8"-16 x 3" Hex Head Self-locking	4
N.S.	330829	Flat Washer - 5/8" (For use with Aluminum Housing)	16
N.S.	14-W	Flat Washer - 3/8" (For use with Aluminum Housing)	4
Drive Gear Bearing Cap Group			
F-1	97-223-1	Gasket	1
F-2	97-19-52-1X	Bearing Cap and Oil Seal Assembly	1
F-3	N.S.S.	Bearing Cap (Casting #97-19-37)	1
F-4	97-463-36-1X	Oil Seal with Installation Sleeve	1
F-5	545002-4	Bolt - 3/8"-16 x 1 1/8" Hex Head Self-locking	4
Case Group			
G-1	See Tab Bills	Case Assembly	1
G-2	N.S.S.	Case	1
N.S.	NP-96	Name Plate	1
N.S.	252-SP	Pin - Name Plate	4
G-3	62-39-3	Filler Plug (Magnetic)	1
G-4	62-39-3	Drain Plug (Magnetic)	1
G-5	97-39-1	Drain Plug (Magnetic)	1
G-6	97-420-4	Tube - Oil Transfer	1
G-7	274-SP	Dowel Pin - (To locate Shifter Housing to Case)	2
G-8	330755	Dowel Pin - (To locate Clutch Housing to Case)	2
N.S.	330934	Ceramic Magnet - Bottom front	1
G-9	50-267-2	Cover - Six Bolt P.T.O. Aperture	2
G-10	330800	Bolt - 3/8"-16 x 3/4" - Flanged Head Self-locking	12





Models PS110-7A/7B & PS145-7A CASE, BEARING CAP and RELATED PARTS

T210-PS145-7

Ref. No.	Part No.	Part Description	Qty
		Mainshaft Rear Bearing Cap - (For Gear Driven Speedometer)	
H-1	97-19-53-1X	Bearing Cap, Bushing, Gasket, and Oil Seal Assembly	1
H-2	N.S.S.	Bearing Cap	1
H-3	60-475-1	Bushing - Speedometer	2
H-4	97-223-2	Gasket	1
H-5	97-463-39	Oil Seal	1
N.S.	545021	Plug - Eletronic Speedometer/Cruise	2
H-6	See Tab Bills	Gear - Speedometer Driven	1
N.S.	55-334-1	Plug - (Used without Speedometer Gear)	1
H-7	55-454-1	Sleeve - Speedometer Driven Gear	1
H-8	545001-4	Bolt - 1/2"-13 x 1 1/2" Hex Head Self-locking	4
and	545001-8	Bolt - 1/2"-13 x 2 1/2" Hex Head Self-locking	2
		Mainshaft Rear Bearing - (For Electronic Speedometer)	
H-1	97-19-53-1X	Bearing Cap, Bushing, Gasket, and Oil Seal Assembly	1
H-2	N.S.S.	Bearing Cap	1
H-3	60-475-1	Bushing - Speedometer	2
H-4	97-223-2	Gasket	1
H-5	97-463-39	Oil Seal	1
N.S.	545021	Plug - Eletronic Speedometer/Cruise	2
N.S.	55-334-1	Plug - Speedometer Outlet	1
H-8	545001-4	Bolt - 1/2"-13 x 1 1/2" Hex Head Self-locking	4
and	545001-8	Bolt - 1/2"-13 x 2 1/2" Hex Head Self-locking	2
		Countershaft Rear Bearing Cap Group	
J-1	97-22-23	Cap - Countershaft Rear Bearing	2
J-2	97-96-23	Cap - Reverse Idler	2
J-3	545015	Bolt - 3/8"-16 x 15/16" Flanged Head Self-locking	10
J-4	330564	Lift Hook	2
N.S.	545056	Anaerobic Sealant	A/R
		Countershaft Rear Bearing Cap Group with PTO Oil Pump	
N.S.	313292	PTO Oil Pump Assy.	1
N.S.	97-22-21	Countershaft Rear Bearing Cap pump mounting (usually on left side)	1
N.S.	70-223-25	Countershaft Oil Pump mounting Gasket	1
J-1	97-22-23	Cap - Countershaft Rear Bearing (usually on right side)	1
N.S.	97-223-22	Gasket - Countershaft Rear Bearing Cap	2
J-3	545015	Bolt - 3/8"-16 x 15/16" Flanged Head Self-locking (for 97-22-23 Cap)	4
N.S.	545002-6	Bolt - 3/8"-16 x 1.250" Flanged Head Self-locking (for 97-22-21 Cap)	4
N.S.	545051	Elbow - Pump inlet 90 deg.	1

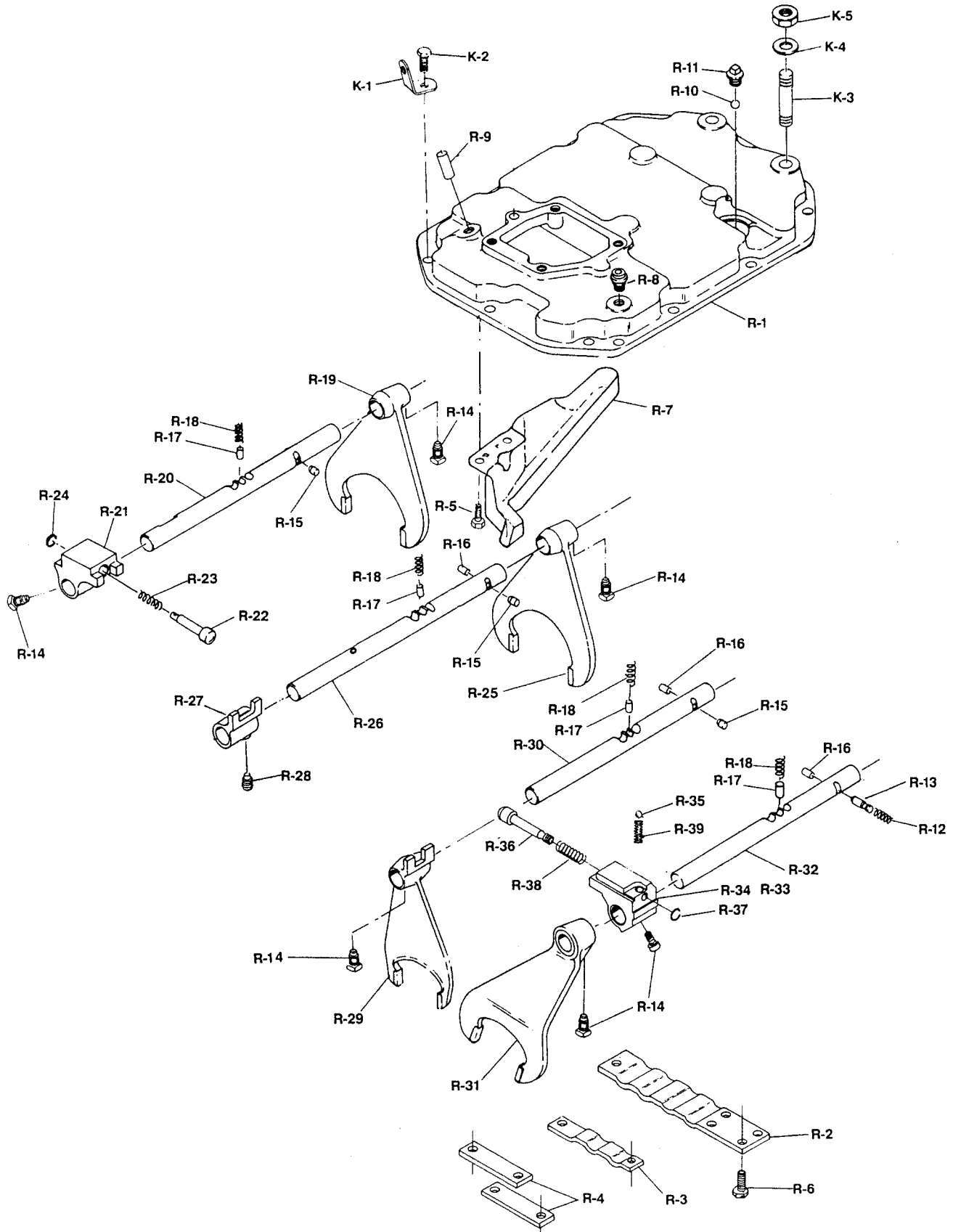
Models PS110-7A/7B & PS145-7A

SHIFTER HOUSING ASSEMBLY

FORWARD CONTROL



T210-PS145-7





Models PS110-7A/7B & PS145-7A

SHIFTER HOUSING ASSEMBLY

FORWARD CONTROL

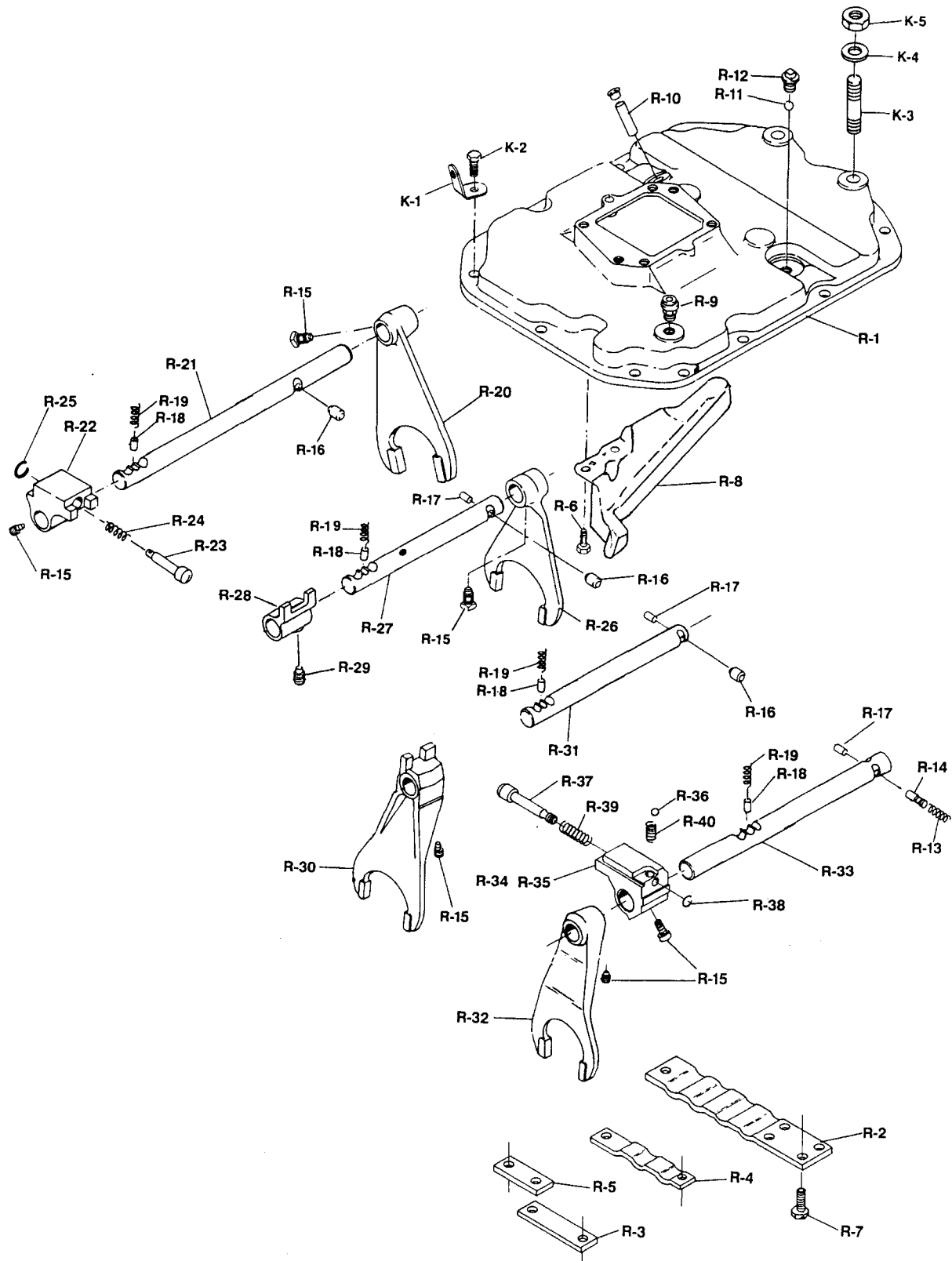
T210-PS145-7

Ref. No.	Part No.	Part Description	Qty
	See Tab Bills	Shifter Housing Assembly	1
R-1	97-16-100-1X	Shift Housing, Oil Trough, and Shift Rod Retainers	1
	N.S.S.	Shift Housing	1
R-2	97-360-9	Retainer - Shift Rod (Rear)	1
R-3	97-360-10	Retainer - Shift Rod (Center)	1
R-4	97-360-11	Retainer - Shift Rod (4th,5th,6th & 7th) (Front)	2
R-5	545125-2	Screw - Oil Trough - 3/4"-16 x 3/4" Self Tapping	2
R-6	545125-1	Screw - Shift Rod Retainers (1.00" long) Self Tapping	9
R-7	97-468-2	Oil Trough	1
N.S.	545126	Screw - Control Hsg.	4
R-8	312268	Breather	1
R-9	330739-1	Pin - Back-up Light	1
R-10	50-80-4	Ball - Neutral Safety Switch	1
R-11	545021	Plug - Neutral Safety Switch	1
R-12	97-72-31	Spring - Interlock Neutral Safety Switch	1
R-13	97-438-25	Plunger - Neutral Safety Switch	1
		For All Shift Forks, Brackets and Rod Groups	
R-14	545063	Set Screw - .437"-20 x .750" w/.50" full thd. 60 deg. incl. point.	7
R-15	97-12-5	Interlock - Shift Rod	3
R-16	194-SP	Pin - Interlock	3
R-17	97-438-34	Poppet - Shift Rod	4
R-18	97-72-37	Spring - Shift Rod Poppet	4
		First and Reverse Shift Rod Group	
R-19	97-66-124	Shift Fork	1
R-20	97-67-307-1X *	Shift Rod	1
R-21	97-354-11	Shift Rod Bracket	1
R-22	97-438-30	Plunger - 1st and Reverse Shift Bracket	1
R-23	97-72-2	Spring - 1st and Reverse Shift Bracket Plunger	1
R-24	97-381-3	Snap Ring - 1st and Reverse Shift Bracket Plunger	1
		Second and Third Shift Rod Group	
R-25	97-66-110	Shift Fork	1
R-26	97-67-341-1X *	Shift Rod	1
R-27	97-354-3	Shift Rod Bracket	1
R-28	545063	Set Screw - .437"-20 x .750" w/.50" full thd. 60 deg. incl. point.	1
		Fourth and Fifth Shift Rod Group	
R-29	97-66-55	Shift Fork	1
R-30	97-67-293-1X *	Shift Rod	1
		Sixth and Seventh Shift Rod Group	
R-31	97-66-120	Shift Fork	1
R-32	97-67-292-1X *	Shift Rod	1
R-33	97-354-32-1X	Shift Rod Bracket Assembly	1
R-34	97-354-32	Shift Rod Bracket	1
R-35	50-80-1	Ball - Shift Bracket Poppet	1
R-36	97-438-27	Plunger - Shift Bracket	1
R-37	97-381-47	Snap Ring	1
R-38	97-72-34	Spring - Shift Bracket Plunger Pin	1
R-39	97-72-33	Spring - Shift Bracket Pilot Pin	1
		Parts Listed Below Are Not Included in Assembly	
N.S.	545056-5	Anaerobic Sealant	A/R
K-1	330564-1	Lift Hook	4
K-2	545002-4	Bolt - 3/8"-16 x 1 1/2" Hex Head Self-locking	10
K-3	330360-15	Stud - 5/8"-11 & 5/8"-18 x 3 1/2"	2
or	330360-18	Stud - 5/8"-16 & 5/8"-18 x 4"	2
K-4	500365-43	Washer - 5/8" Flat	2
K-5	500371-7	Nut - 5/8"-18	2

* - Includes (1) each of R-17 and R-18

CENTER CONTROL

T210-PS145-7





Models PS110-7A/7B & PS145-7A

SHIFTER HOUSING ASSEMBLY

CENTER CONTROL

T210-PS145-7

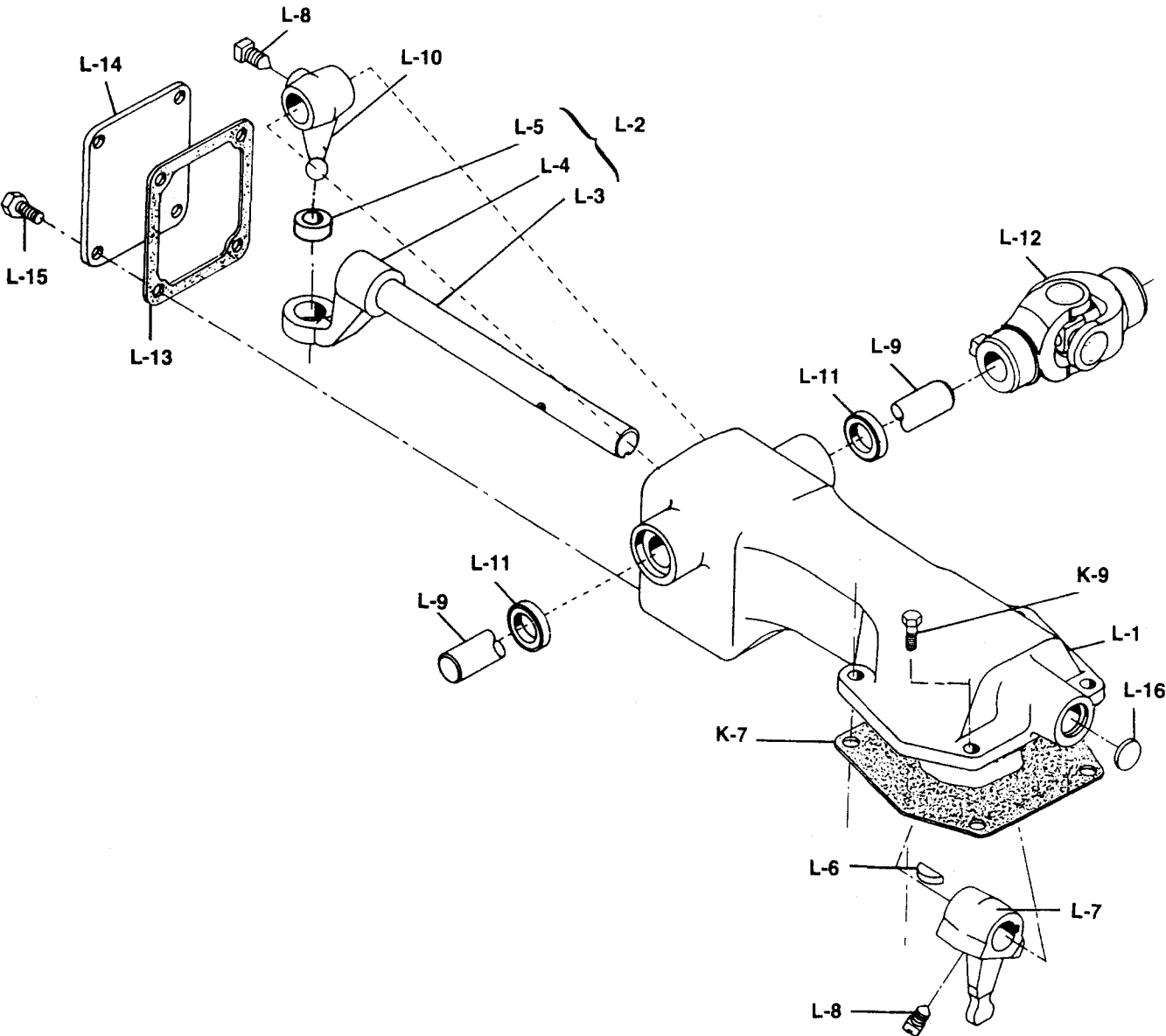
Ref. No.	Part No.	Part Description	Qty
	See Tab Bills	Shifter Housing Assembly	1
R-1	97-16-99-1X	Shifter Housing, Oil Trough and Shift Rod Retainers	1
	N.S.S.	Shift Housing	1
R-2	97-360-9	Retainer - Shift Rod (Rear)	1
R-3	97-360-11	Retainer - Shift Rod (4th,5th,6th & 7th) (Front)	1
R-4	97-360-12	Retainer - Shift Rod (Center)	1
R-5	97-360-13	Retainer - Shift Rod (1st & Reverse) (Front)	1
R-6	545125-2	Screw - Oil Trough	2
R-7	545125-1	Screw - Shift Rod Retainers (1.00" long)	9
R-8	97-468-2	Oil Trough	1
N.S.	545126	Screw - Control Hsg.	4
R-9	312268	Breather	1
R-10	330739-1	Pin - Back-up Light	1
R-11	50-80-4	Ball - Neutral Safety Switch	1
R-12	545021	Plug - Neutral Safety Switch	1
R-13	97-72-31	Spring - Interlock Neutral Safety Switch	1
R-14	97-438-25	Plunger - Interlock Neutral Safety Switch	1
		For All Shift Forks, Brackets and Rod Groups	
R-15	545063	Set Screw - .437"-20 x .750" w/.50" full thd. 60 deg. incl. point.	7
R-16	97-12-5	Interlock - Shift Rod	3
R-17	194-SP	Pin - Interlock	3
R-18	97-438-34	Poppet - Shift Rod	4
R-19	97-72-37	Spring - Shift Rod Poppet	4
		First and Reverse Shift Rod Group	
R-20	97-66-124	Shift Fork	1
R-21	97-67-303-1X *	Shift Rod	1
R-22	97-354-11	Shift Rod Bracket	1
R-23	97-438-30	Plunger - 1st and Reverse Shift Bracket	1
R-24	97-72-2	Spring - 1st and Reverse Shift Bracket Plunger	1
R-25	97-381-3	Snap Ring - 1st and Reverse Shift Bracket Plunger	1
		Second and Third Shift Rod Group	
R-26	97-66-110	Shift Fork	1
R-27	97-67-344-1X *	Shift Rod	1
R-28	97-354-3	Shift Rod Bracket	1
R-29	545063	Set Screw - .437"-20 x .750" w/.50" full thd. 60 deg. incl. point.	1
		Fourth and Fifth Shift Rod Group	
R-30	97-66-61	Shift Fork	1
R-31	97-67-305-1X *	Shift Rod	1
		Sixth and Seventh Shift Rod Group	
R-32	97-66-120	Shift Fork	1
R-33	97-67-306-1X *	Shift Rod	1
R-34	97-354-32-1X	Shift Rod Bracket Assembly	1
R-35	97-354-32	Shift Rod Bracket	1
R-36	50-80-1	Ball - Shift Bracket Poppet	1
R-37	97-438-27	Plunger - Shift Bracket	1
R-38	97-381-47	Snap Ring	1
R-39	97-72-34	Spring - Shift Bracket Plunger Pin	1
R-40	97-72-33	Spring - Shift Bracket Pilot Pin	1
		Parts Listed Below are not Included in Assembly	
N.S.	545056-5	Anaerobic Sealant	A/R
K-1	330564-1	Lift Hook	4
K-2	545002-4	Bolt - 3/8"-16 x 1 1/2" Hex Head Self-locking	10
K-3	330360-15	Stud - 5/8"-11 & 5/8"-18 x 3 1/2"	2
or	330360-18	Stud - 5/8"-16 & 5/8"-18 x 4"	2
K-4	500365-43	Washer - 5/8" Flat	2
K-5	500371-7	Nut - 5/8"-18	2

* - Includes (1) each of R-18 and R-19

Models PS110-7A/7B & PS145-7A
REMOTE CONTROL ASSEMBLY
HIGH ROD TYPE



T210-PS145-7



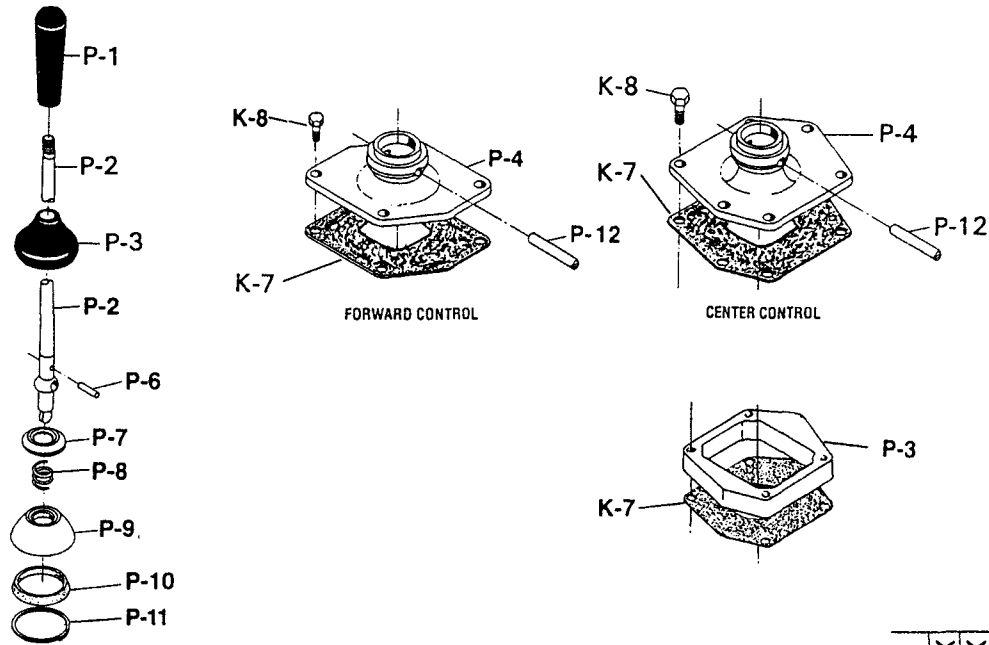


Models PS110-7A/7B & PS145-7A

REMOTE CONTROL ASSEMBLY

T210-PS145-7

Ref. No.	Part Number	Part Description	80-49X	97-18-4-2X	97-18-6-2X	73-16-3-1X	312-752-2X	85-16-42-2X	311-890-1X	97-18-3-2X
	See Tab Bills	Cover & Joint Assembly—Remote Control	1	1	1	1	1	1	1	1
	311866X	Cover Assembly	1							
	312755X	Cover Assembly					1			
	311914X	Cover Assembly				1			1	
	97-18-16-1X	Cover Assembly			1					
	85-16-42-1X	Cover Assembly (Rotated 180 Degrees and Welded)						1		
	97-18-3-1X	Cover Assembly								1
	97-18-4-1X	Cover Assembly		1						
L-1	N.S.S.	Remote Control Cover	1	1	1	1	1	1	1	1
N.S.	82-24-3	Bushing—Remote Control Cover	4	4	4	4	4	4	4	4
L-2	8093X	Shift Finger Rod and Bracket Assembly	1							
	311888X	Shift Finger Rod and Bracket Assembly				1			1	
	312754X	Shift Finger Rod and Bracket Assembly					1			
	97-65-39-1X	Shift Finger Rod and Bracket Assembly		1						
	97-65-41-1X	Shift Finger Rod and Bracket Assembly			1					
	85-65-11-1X	Shift Finger Rod and Bracket Assembly						1		
	97-65-32-1X	Shift Finger Rod and Bracket Assembly								1
L-3	N.S.S.	Rod—Shift Finger	1	1	1	1	1	1	1	1
L-4	N.S.S.	Bracket—Shift Finger	1	1	1	1	1	1	1	1
L-5	85-24-4	Bushing—Shift Bracket	1	1	1	1	1	1	1	1
L-6	5000007-19	Woodruff Key #11	1	1	1	1	1	1	1	1
L-7	82-6-9	Finger—Inner Shift	1	1	1	1	1	1	1	1
L-8	545063	Bolt—7/16"-20 x 13/16" Hex Head Self-locking ...	2	2	2	2	2	2	2	2
L-9	82-65-5	Rod—Remote Control	1	1	1	1		1	1	1
	82-65-22	Rod—Remote Control					1			
L-10	82-6-7	Finger—Outer Shift	1	1	1	1	1	1	1	1
L-11	28P-19	Seal—Remote Control Shift Rod	2	2	2	2	2	2	2	2
L-12	10380-SF	U-Joint Assembly—Control Rod	1				1	1	1	1
	904388	U-Joint Assembly—Control Rod		1	1	1				
L-13	82-118-1	Gasket—Aperture Cover	1	1	1	1	1	1	1	1
L-14	82-96-1	Aperture Cover	1	1	1	1	1	1	1	1
L-15	545005-1	Bolt—5/16"-18 x 5/8" Hex Head Self-locking	4	4	4	4	4	4	4	4
L-16	500166-16	Expansion Plug—1 1/16"	1	1	1	1	1	1	1	1
N.S.	311903X	Boot Kit—Remote Control	1	1		1	1		1	
N.S.	82-483-1	Boot—Standard	1	1		1	1		1	
N.S.	82-483-2	Boot—Cup Type	1	1		1	1		1	
N.S.	LW-3-9	Lockwire #18-M Gage (9"long)	3	3		3	3		3	
N.S.	313259	Valve—Road Speed Governor Control		1	1					
		Parts Listed Below Are Not Included in Assembly								
K-7	97-155-12	Gasket—Remote Control Cover	1	1	1	1	1	1	1	1
K-9	545126	Bolt—7/16"-14 x 1 1/8" Hex Head Self-locking ...	4	4	4	4	4	4	4	4

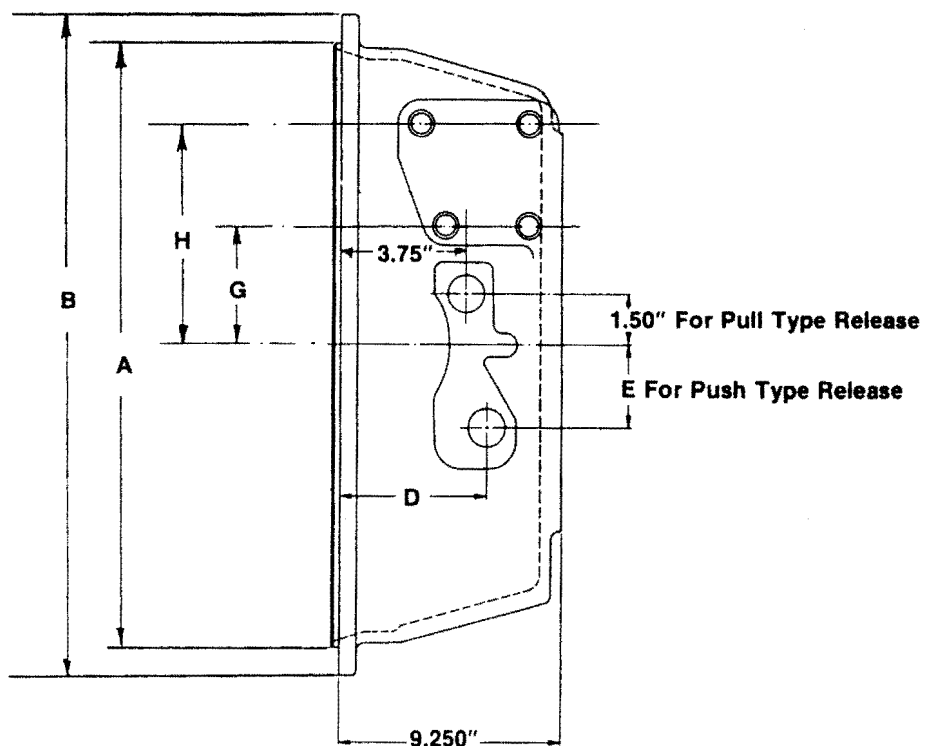


REF. NO.	PART NO.	PART DESCRIPTION	85-16-37-2X	85-16-37-6X	85-16-37-17X	85-16-37-53X	85-16-37-59X	97-17-1-1X	312820-1X
	See Tab Bills	Shift Lever and Dome Assembly							
P-1	39Q-27	Handle - Shift Lever	1	1	1	1	1	1	1
	39Q-29	Handle - Shift Lever	1						
P-2	25Q-1106	Shift Lever - Length 28 1/2" Straight				1		1	1
	25Q-1533	Shift Lever - Length 33" Straight	1	1		1		1	
	25Q-1570	Shift Lever - Length 33" Straight			1				
	25Q-2168	Shift Lever - Length 26.80" (2) Bends					1		
P-3	85-37-9	Spacer - Dome to Shifter Housing	1	1		1			
K-7	97-155-12	Gasket - Center (6 Holes)	2	2	2	2			
or	97-155-13	Gasket - Forward (4 Holes)	4	4		4			
K-8	545126	Bolt - 7/16"-14 x 2 1/4" Hex Head Self-locking							
	82-16-19X	Dome Assembly - Shift Lever (Center)(Includes P-4 thru P-12)							1
	85-16-37X	Dome Assembly - Shift Lever (Center)(Includes P-4 thru P-12)	1	1	1	1	1		
	97-17-1-1X	Dome Assembly - Shift Lever (Forward)(Includes P-4 thru P-12)							
P-4	82-16-19	Dome - Shift Lever - 2 5/32" Height						1	
	85-16-37	Dome - Shift Lever - 3 5/32" Height							1
	97-17-1	Dome - Shift Lever - 4 5/8" Height	1	1	1	1	1		
P-5	55Q-5	Gromet - Shift Lever						1	
P-6	286-SP	Pin - Shift Lever Compression Collar	1	1	1	1	1	1	1
P-7	55Q-7	Collar - Compression	1	1	1	1	1	1	1
P-8	56Q-25	Spring - Compression	1	1	1	1	1	1	1
P-9	54Q-13	Cup - Compression	1	1	1	1	1	1	1
P-10	69Q-6	Washer - Friction	1	1	1	1	1	1	1
P-11	62-381-7	Snap Ring - Rocker Shaft	1	1	1	1	1	1	1
P-12	53Q-15	Rocker Shaft - Shift Lever	1	1	1	1	1	1	1
		Parts Listed Below Are Not Included in Assembly							
K-7	97-155-12	Gasket - Dome to Shifter Housing (6 Holes)					1	1	1
or	97-155-13	Gasket - Dome to Shifter Housing (4 Holes)						1	1
K-8	545126	Bolt - 7/16"-14 x 2 1/4" Hex Head Self-locking			4		4	4	4

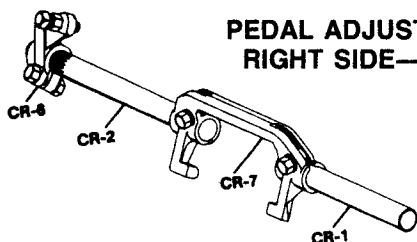
Models PS110-7A/7B & PS145-7A CLUTCH HOUSING DIMENSIONS

Size No.	A Pilot Dia.	B O.D.
1	20 $\frac{1}{8}$ "	21 $\frac{3}{4}$ "
2	17 $\frac{5}{8}$ "	19 $\frac{1}{4}$ "

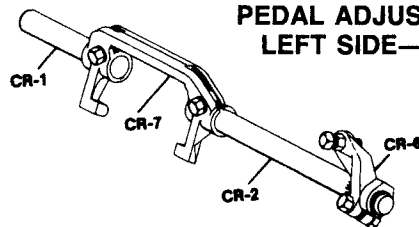
NODAL MOUNT



Part No. E-2	Casting No.	Material	SAE #	D Lower Hole Dim. Face To Center Hole	E Below Center	G	H
97-518-52-1X	C97-518-35	Iron	2	4.375"	2.375"	3.50"	6.50"
97-518-66-1X	C97-518-33	Iron	1	3.750"	1.500"	4.00"	8.50"



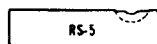
**PEDAL ADJUSTING ARM
RIGHT SIDE—310473X**



**PEDAL ADJUSTING ARM
LEFT SIDE—310233X**

CR-1 SHORT SHAFT

Part No.	Length
106C-1071	4.062"
106C-1141	5.125"
106C-1142	6.125"
106C-1185	5.750"
106C-1216	4.750"
106C-1278	4.812"
106C-1360	5.312"
106C-1375	6.781"
106C-1498	6.500"
106C-1544	7.000"
330601-1	6.250"



CR-2 LONG SHAFT

Part No.	Type	Length
106C-438	RS-5	14.000"
106C-588	RS-5	7.000"
106C-617	RS-8	10.469"
106C-839	RS-8	11.469"
106C-939	RS-8	10.000"
106C-953	RS-8	9.750"
106C-959	RS-8	11.968"
106C-960	RS-8	8.719"
106C-1046	RS-8	8.968"
106C-1047	RS-8	9.469"

CR-2 LONG SHAFT (Cont'd)

Part No.	Type	Length
106C-1083	RS-8	7.969"
106C-1094	RS-8	8.469"
106C-1123	RS-8	12.968"
106C-1169	RS-8	9.125"
106C-1315	RS-8	7.625"
106C-1367	RS-8	10.312"
106C-1375	RS-8	6.781"
106C-1417	RS-8	7.250"
106C-1422	RS-8	7.500"
106C-1490	RS-8	16.000"
106C-1515	RS-5	11.375"
106C-1529	RS-5	8.312"
330610-5	RS-8	9.469"
330610-11	RS-8	10.750"
46-510-9	RS-5	7.125"
330610-10	RS-8	9.500"

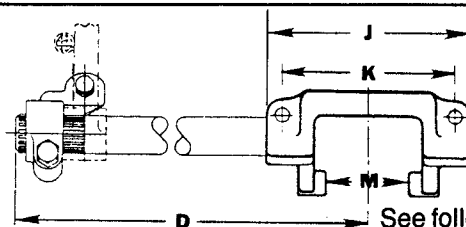
CR-6 PEDAL ADJ. ARM

310233X	For Left Side Mtg.
310473X	For Right Side Mtg.
47-526-1-1X*	Lever Type 7¼"
310873X*	Lever Type 7¼"

*Lever type can be used on either right or left side.

THRU SHAFT (used with Push Type Clutch)

Part No.	Type	Length
106C-1566	Spined	19.125"
106C-1550	Keyed	16.375"
106C-1558	Keyed	19.000"
106C-1578	Spined	19.500"
49-510-1	Keyed	19.120"
97-510-2	Spined	19.313"



See following page for "D" dimensions.

CLUTCH RELEASE YOKES

CR-7	Forging No.	Used With	Type	J	K	M
105C-64	F105C64	Spicer 15½" SP	Pull	8.000"	6.500"	4.895"
105C-68	F105C99	Spicer 14" SP	Pull	7.125"	5.750"	4.132"
105C-117 ¹	F105C118	Spicer & Others	Push	8.375"	7.000"	4.885"
105C-124■	F105C125	Spicer AL & AR	Push	3.750"	2.125"	2.885"
105C-132 ²	F105C118	Spicer & Others	Push	8.375"	7.000"	4.885"
105C-137	F105C138	Spicer 13" and	Pull	8.000"	6.500"	4.895"
	C105C138	14" 2P				
85-509-3 ³	F105C118	Spicer & Others	Push	8.375"	7.000"	4.885"

¹Machined washer surface on yoke front

²Machined washer surface on yoke rear (for clearance)

³Same as ¹ above except contains spring holes in lugs

■ Use 7743X Clutch Release Bearing and (2) 2306-12 Springs.

★ CLUTCH RELEASE YOKE ATTACHING PARTS—

Use one KEY 10-30, two SCREWS 330231 and two LOCK WASHERS 500356-12

NOTE: When changing from a two plate to single plate clutch or vice versa, a different bearing cap will be required.



Models PS110-7A/7B & PS145-7A

CLUTCH RELEASE CODE TABLE

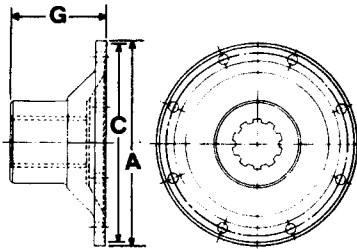
T210-PS145-7

Rel.Code See Tab Bill	CR-7 Yoke ★	Shaft		Adjustable Arm	D Dim. (In.)	Rel.Code See Tab Bill	CR-7 Yoke ★	Shaft		Adjustable Arm	D Dim. (In.)
		CR-1 Short	CR-2 Long					CR-1 Short	CR-2 Long		
1	105C-64	106C-1142	106C-1047	310233X	11.969	60	105C-137	106C-1185	106C-617	310233X	12.969
2	105C-64	106C-1185	106C-438	—	16.500	61	105C-137	106C-1185	106C-839	310233X	13.969
3	105C-64	106C-1185	106C-939	310233X	12.500	62	105C-137	106C-1185	106C-939	310233X	12.500
4	105C-64	106C-1185	106C-1046	310233X	11.468	63	105C-137	106C-1185	106C-939	310473X	12.500
5	105C-64	106C-1185	106C-1047	310233X	11.969	64	105C-137	106C-1185	106C-953	310473X	12.250
6	105C-64	106C-1185	106C-1047	47-526-1-1X	11.969	65	105C-137	106C-1185	106C-1046	310233X	11.468
7	105C-64	106C-1544	106C-839	310233X	13.969	66	105C-137	106C-1185	106C-1046	310473X	11.468
8	105C-68	106C-1142	106C-438	—	16.125	67	105C-137	106C-1185	106C-1047	310233X	11.969
9	105C-68	106C-1142	106C-617	—	12.594	68	105C-137	106C-1185	106C-1083	310233X	10.469
10	105C-68	106C-1142	106C-617	310233X	12.594	69	105C-137	106C-1185	106C-1094	—	10.969
11	105C-68	106C-1142	106C-839	310233X	13.594	70	105C-137	106C-1185	106C-1094	310233X	10.969
12	105C-68	106C-1142	106C-939	310233X	12.125	71	105C-137	106C-1185	106C-1123	—	15.468
13	105C-68	106C-1142	106C-1046	310233X	11.093	72	105C-137	106C-1185	106C-1123	310233X	15.468
14	105C-68	106C-1142	106C-1047	310233X	11.594	73	105C-137	106C-1185	106C-1367	—	12.812
15	105C-68	106C-1278	106C-438	—	16.125	74	105C-137	106C-1185	106C-1367	310233X	12.812
15A	105C-68	106C-1278	106C-939	310473X	12.125	75	105C-137	106C-1185	106C-1375	310873X	9.281
15B	105C-68	106C-1278	106C-939	310233X	12.125	76	105C-137	106C-1185	106C-1515	—	13.875
16	105C-117	106C-1071	106C-939	310233X	12.750	77	105C-137	106C-1185	106C-1529	—	10.812
17	105C-117	106C-1071	106C-1094	310233X	11.219	78	105C-137	106C-1185	330610-5	—	11.969
18	105C-117	106C-1142	106C-939	310233X	12.750	78A	105C-137	106C-1185	46-510-9	—	9.625
19	105C-117	106C-1185	106C-438	—	16.750	79	105C-137	106C-1216	106C-617	310233X	12.969
20	105C-117	106C-1185	106C-617	310233X	13.219	80	105C-137	106C-1278	106C-438	—	16.500
21	105C-117	106C-1185	106C-839	47-526-1-1X	14.219	81	105C-137	106C-1278	106C-588	—	9.500
22	105C-117	106C-1185	106C-939	310233X	12.750	82	105C-137	106C-1278	106C-588	310233X	9.500
23	105C-117	106C-1185	106C-953	310873X	12.500	83	105C-137	106C-1278	106C-617	310233X	12.969
24	105C-117	106C-1185	106C-960	310233X	11.469	84	105C-137	106C-1278	106C-939	310233X	12.500
25	105C-117	106C-1185	106C-1046	310233X	11.718	84A	105C-137	106C-1278	106C-939	310473X	12.500
26	105C-117	106C-1185	106C-1047	310233X	12.219	85	105C-137	106C-1278	106C-939	310873X	12.500
27	105C-117	106C-1185	106C-1083	—	10.719	86	105C-137	106C-1278	106C-960	310233X	11.219
28	105C-117	106C-1185	106C-1083	310233X	10.719	87	105C-137	106C-1278	106C-1046	—	11.468
29	105C-117	106C-1185	106C-1083	310473X	10.719	88	105C-137	106C-1278	106C-1046	310233X	11.468
30	105C-117	106C-1185	106C-1094	310233X	11.219	89	105C-137	106C-1278	106C-1047	—	11.969
31	105C-117	106C-1185	106C-1094	310873X	11.219	90	105C-137	106C-1278	106C-1047	310233X	11.969
32	105C-117	106C-1185	106C-1169	310233X	11.875	91	105C-137	106C-1278	106C-1083	310233X	10.469
33	105C-117	106C-1185	106C-1315	—	10.375	91A	105C-137	106C-1278	106C-1083	310473X	10.469
34	105C-117	106C-1185	106C-1315	310233X	10.375	92	105C-137	106C-1278	106C-1094	310233X	10.969
35	105C-117	106C-1185	106C-1315	47-526-1-1X	10.375	92A	105C-137	106C-1278	106C-1315	310233X	10.125
35A	105C-117	106C-1185	106C-1375	310873X	9.531	93	105C-137	106C-1278	106C-1375	310233X	9.281
36	105C-117	106C-1185	106C-1417	310233X	10.000	94	105C-137	106C-1278	106C-1422	310233X	10.000
37	105C-117	106C-1185	106C-1417	310873X	10.000	95	105C-137	106C-1278	106C-1529	—	10.812
38	105C-117	106C-1185	106C-1490	310233X	18.750	96	105C-137	106C-1360	106C-1083	—	10.469
39	105C-117	106C-1278	106C-939	310233X	12.750	96A	105C-137	106C-1360	106C-1417	310233X	9.750
40	105C-117	106C-1278	106C-960	310873X	11.469	97	105C-137	106C-1360	106C-1422	310233X	10.000
41	105C-117	106C-1278	106C-1047	310233X	12.219	98	105C-137	106C-1375	106C-438	310233X	16.500
42	105C-117	106C-1278	106C-1094	310233X	11.219	99	105C-137	106C-1498	106C-438	—	16.500
43	105C-117	106C-1278	106C-1315	310233X	10.375	100	105C-137	106C-1498	106C-617	310233X	12.969
44	105C-117	106C-1278	106C-1367	310233X	13.062	101	105C-137	106C-1498	106C-617	310473X	12.969
45	105C-117	106C-1360	106C-1083	310233X	10.719	102	105C-137	106C-1498	106C-939	310233X	12.500
46	105C-117	106C-1360	106C-1315	310233X	10.375	103	105C-137	106C-1498	106C-939	310473X	12.500
46A	105C-117	106C-1360	330610-10	—	12.250	104	105C-137	106C-1498	106C-953	310233X	12.250
47	105C-117	Thru Shaft	106C-1550	—	—	105	105C-137	106C-1498	106C-959	310233X	14.468
48	105C-117	Thru Shaft	106C-1558	—	—	106	105C-137	106C-1498	106C-1046	310233X	11.468
49	105C-124	106C-1185	106C-438	—	14.313	107	105C-137	106C-1498	106C-1047	—	11.969
50	105C-124	Thru Shaft	106C-1566	310233X	—	108	105C-137	106C-1498	106C-1047	310233X	11.969
51	105C-124	Thru Shaft	106C-1566	310473X	—	109	105C-137	106C-1498	106C-1083	310233X	10.469
52	105C-124	Thru Shaft	106C-1566	310873X	—	110	105C-137	106C-1498	106C-1094	—	10.969
52A	105C-124	Thru Shaft	49-510-1	310233X	—	111	105C-137	106C-1498	330610-11	310233X	13.250
53	105C-132	106C-1185	106C-1047	310233X	9.782	112	105C-137	330601-1	106C-939	310233X	12.500
54	105C-132	106C-1185	106C-1083	310233X	8.282	112A	85-509-3	106C-1278	106C-939	310233X	12.750
55	105C-132	106C-1185	106C-1417	310873X	7.563	113	85-509-3	106C-1360	106C-1417	310233X	10.000
56	105C-132	106C-1185	46-510-9	—	7.438	114	85-509-3	Thru Shaft	106C-1578	310233X	—
57	105C-132	106C-1278	46-510-9	—	7.438	114A	85-509-3	Thru Shaft	106C-1578	310473X	—
58	105C-137	106C-1141	106C-1169	310233X	11.625	115	85-509-3	Thru Shaft	106C-1578	310873X	—
59	105C-137	106C-1185	106C-438	—	16.500	116	312916	Thru Shaft	97-510-2	—	—

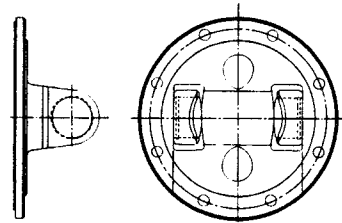
■ Use 7743X Clutch Release Bearing and (2) 2306-12 Springs.

Models PS110-7A/7B & PS145-7A
COMPANION FLANGES
AND END YOKES

T210-PS145-7



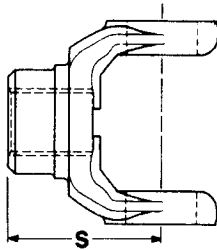
COMPANION FLANGE



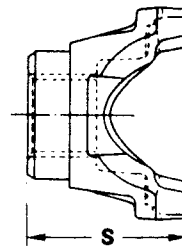
FLANGE YOE

Companion Flanges and Flange Yokes

A Joint Series	Flange Diameter	Companion Flange Assembly	Companion Flange	G to Flange Face Length	C Pilot Diameter F-Female M-Male	Mates With	
						Flange Yoke	Series
1710	8.00"	-	6-1-5821	6.31"	M-6.436"	-	1710
1810	8.00"	-	6.5-1-269	3.64"		-	1810



FULL ROUND



U-BOLT—BRG. STRAP—HALF ROUND

Series	Yoke Style	End Yoke Part Number	S End of Hub To Center Line Length	Momentary Joint Angle	Brake Size	Spline Type
1610	Half Round	5-4-7951-1	5 1/2"	18 1/2°	—	Fine
1710	Full Round	6-4-7691	5 3/16"	20°	—	Fine
1710	Half Round	6-4-7691-1	5 3/16"	20°	—	Fine
1760	Full Round	6.3-4-1251	5 9/16"	30°	—	Fine
1760	Half Round	6.3-4-1251-1	5 9/16"	30°	—	Fine
1810	Full Round	6.5-4-3821	5 9/16"	30°	—	Fine
1810	Half Round	6.5-4-3821-1	5 9/16"	30°	—	Fine

NOTES

**Models PS110-7A/7B & PS145-7A
SERVICE PARTS OVERHAUL KITS**



T210-PS145-7

Part No.	Part Description	313400		
		-80X	-79X	-78X
	Major Overhaul Kits	1	1	1
	Found Only in Major Overhaul Kits			
97-35-102	Input Shaft - 2.000"-10 Spline #306 Pilot	1	-	-
97-35-106	Input Shaft - 1.750"-10 Spline #205 Pilot	-	1	-
97-35-105	Input Shaft - 1.750"-10 Spline #306 Pilot	-	-	1
500010-8	Woodruff Key #29	12	12	12
545065	Nut - Mainshaft (1 3/4"-16 S.A.E. Thread)	1	1	1
313432-35X	Minor Overhaul Kit (Included in Major Overhaul Kits)	1	1	1
550031	Bearing - Countershaft Front	2	2	2
550992	Bearing - Drive Gear/Input Shaft Front	1	1	1
550959	Bearing - Countershaft Rear	2	2	2
550953	Bearing - Drive Gear/Input Shaft Pocket Roller	1	1	1
550925	Bearing - Mainshaft Rear (Auxiliary Output)	1	1	1
550886	Bearing - Reverse Idler Gear Roller Assembly	4	4	4
97-463-36-1X	Oil Seal - Drive Gear Bearing Cap (Includes 2815 Installation Bulletin and Installation Sleeve)	1	1	1
97-463-39	Oil Seal - Mainshaft Rear Bearing Cap	1	1	1
545077	Packet - #2 Moly Grease	1	1	1
545080-1	Adhesive - Mainshaft Nut Anaerobic Sealant	1	1	1
312475-33X	Gasket Kit (Included in Major and Minor Overhaul Kit)	1	1	1
545056-9	Anaerobic Sealant - (1) 24cc Tube	1	1	1
97-155-12	Gasket - Control Housing (Center Control)	1	1	1
97-155-13	Gasket - Control Housing (Forward Control)	1	1	1
97-223-1	Gasket - Drive Gear Bearing Cap	1	1	1
97-223-2	Gasket - Mainshaft Rear Bearing Cap	1	1	1
82-118-1	Gasket - Remote Control Aperture Cover	1	1	1
2754	Bulletin - Liquid Gasket	1	1	1
2770	Bulletin - Pocket Bearing Lubrication Instructions	1	1	1
2783	Bulletin - Mainshaft Nuts	1	1	1



Models PS110-7A/7B & PS145-7A SERVICE PARTS OVERHAUL KITS

T210-PS145-7

Part No.	Part Description	313400		
		-80X	-79X	-78X
313429-24X	Shifter Housing Repair - Small Parts (Included in Major Overhaul Kit)	1	1	1
97-12-5	Interlock	3	3	3
194-SP	Pin - Interlock	2	2	2
330739-1	Pin - Reverse Switch	1	1	1
97-438-30	Plunger - 1st & Reverse Shift Bracket	1	1	1
97-438-34	Poppet - Shift Rod	4	4	4
97-381-3	Snap Ring - Poppet 1st & Reverse Shift Bracket Plunger	1	1	1
545125-1	Screw - Shift Rod Retainers	7	7	7
97-72-37	Spring - Shift Rod Poppet	4	4	4
97-72-2	Spring - 1st & Reverse Shift Bracket Plunger	1	1	1
50-80-4	Ball - Neutral Safety Switch	1	1	1
97-72-31	Spring - Interlock (used with Neutral Safety Switch)	1	1	1
313401-31X	Thrust Washer Kit - (Included in Major Overhaul Kit)	1	1	1
330810	Mainshaft Thrust Washer External (24T) Large	4	4	4
330814	Mainshaft Thrust Washer External (20T) Small	2	2	2
330959	Mainshaft Thrust Washer Internal (48T) Large	5	5	5
330960	Mainshaft Thrust Washer Internal (36T) Small	2	2	2
330961	Mainshaft Thrust Washer Internal (22T)	1	1	1
330806	Mainshaft Thrust Washer Internal (17T)	1	1	1
313024-27X	Snap Ring Kit - (Included in Major and Minor Overhaul Kit)	1	1	1
54-381-1	Snap Ring - Countershaft Rear Bearing Retaining	2	2	2
97-381-30	Snap Ring - Countershaft Front Bearing Retaining	2	2	2
97-381-44	Snap Ring - Drive Gear	1	1	1
97-381-42	Snap Ring - Input Shaft Front Bearing Retaining	1	1	1
97-381-41	Snap Ring - Input Shaft Bearing Cap Retaining	1	1	1
97-381-1	Snap Ring - Mainshaft Internal (Small)	2	2	2
98-381-2	Snap Ring - Mainshaft Internal (Large)	3	3	3
98-381-1	Snap Ring - Mainshaft External (Large)	5	5	5
97-381-32	Snap Ring - Mainshaft Internal (Reverse Gear)	2	2	2
97-381-45	Snap Ring - Mainshaft External (Small)	2	2	2
97-381-43	Snap Ring - Mainshaft 4th & 5th Internal Stop	2	2	2
97-381-46	Snap Ring - Mainshaft External	1	1	1
97-381-2	Snap Ring - Mainshaft Internal	1	1	1

Models PS110-7A/7B & PS145-7A



T210-PS145-7

TABULATED BILLS OF MATERIAL

Tab No.	Used By	For Use With Clutch	S A E	Clutch Housing Assembly Number	Rel. Code	Drive Gear Input Shaft A-1	Drive Gear Brg. Cap F-2	Case Assy. G-1
Model PS110-7A								
301519								
-51	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-52	Navistar	Pull Type	2	97-518-52-1X	-	97-35-106-1X	97-19-52-1X	97-15-56-1X
-53	Navistar	Pull Type	2	97-518-52-1X	-	97-35-106-1X	97-19-52-1X	97-15-56-1X
-54	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-55	Not Assigned							
**56	Volvo GM	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-57	Ford	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-58	Freightliner	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-59	Ford	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-60	Freightliner	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-61	Navistar	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-62	Navistar	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
Model PS110-7B								
301518								
-1	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-2	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-3	Navistar	Pull Type	2	97-518-52-1X	-	97-35-106-1X	97-19-52-1X	97-15-56-1X
**4	Volvo-GM	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-5	DPD Australia	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-6	Ford	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-7	Ford	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
**8	Volvo-GM	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-9	Ford	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-10	Freightliner	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
@11	Freightliner	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-12	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-13	Navistar	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-14	Navistar	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-15	Ford	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-16	Ford	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-17	Kenworth	Pull Type	1	97-518-66-1X	100	97-35-102-1X	97-19-52-1X	97-15-56-1X

** - Includes Neutral Start Switch

@ - Countershaft PTO provision both sides



Models PS110-7A/7B & PS145-7A

TABULATED BILLS OF MATERIAL

T210-PS145-7

Tab No.	Mainshaft Rear Brg. Cap Assy. H-2	Speedo Drive or Sig. Gear B-30	Speedo Driven H-7	Compan. Flng. or Yoke 21	Shft. Hsg. Assembly 11-14	Lever & Dome 18	Remote Control 16
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Model PS110-7A

301519

-51	97-19-53-1X	-	-	-	97-16-99-3X	-	-
-52	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-53	97-19-58-1X	-	-	-	97-16-100-3X	-	-
-54	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-55	Not Assigned						
-56	97-19-53-1X	97-452-19	-	-	97-16-100-3X	-	-
-57	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-99-3X	-	-
-58	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-100-3X	-	-
-59	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-100-3X	-	-
-60	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-99-3X	-	-
-61	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-62	97-19-58-1X	-	-	-	97-16-100-3X	-	-

Model PS110-7B

301518

-1	97-19-53-1X	-	-	-	97-16-99-3X	-	-
-2	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-3	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-4	97-19-53-1X	97-452-19	-	-	97-16-100-3X	-	-
-5	97-19-53-1X	97-452-19	-	6.5-4-3821-1	97-16-99-3X	-	-
-6	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-99-3X	-	-
-7	97-19-53-1X	97-452-19	-	6.3-4-1251-1	97-16-100-3X	-	-
-8	97-19-53-1X	-	-	-	97-16-99-3X	-	-
-9	97-19-53-1X	97-452-19	-	6.5-4-3821-1	97-16-100-3X	-	-
-10	97-19-53-1X	97-452-19	-	6.3-4-1251-1	97-16-99-4X	-	-
-11	97-19-53-1X	97-452-19	-	6.3-4-1251-1	97-16-99-4X	-	-
-12	97-19-53-1X	-	-	-	97-16-99-3X	-	-
-13	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-14	97-19-58-1X	-	-	-	97-16-100-3X	-	-
-15	97-19-53-1X	97-452-19	-	6.3-4-1251-1	97-16-100-3X	-	-
-16	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-100-3X	-	-
-17	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-99-3X	-	-

Models PS110-7A/7B & PS145-7A



T210-PS145-7

TABULATED BILLS OF MATERIAL

Tab No.	Used By	For Use With Clutch	S A E	Clutch Housing	Rel. Code	Drive Gear Input Shaft A-1	Drive Gear Brg. Cap F-2	Case Assy. G-1
				Assembly Number				
Model PS145-7A								
301520								
-101	Freightliner	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-102	Peterbilt	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-103	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-104	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-105	DPD Australia	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-106	Prevost	Pull Type	1	97-518-66-1X	59	97-35-102-1X	97-19-52-1X	97-15-56-1X
-107	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-108	Ford	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
** -109	Volvo-GM	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
#-110	FWD	Pull Type	1	97-518-66-1X	62	97-35-102-1X	97-19-52-1X	97-15-56-1X
-111	Ford	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-112	Ford	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-113	Navistar	Pull Type	2	97-518-52-1X	-	97-35-106-1X	97-19-52-1X	97-15-56-1X
-114	Ford	Pull Type	2	97-518-52-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-115	Kenworth	Pull Type	1	97-518-66-1X	100	97-35-102-1X	97-19-52-1X	97-15-56-1X
-116	Volvo GM	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-117	Volvo GM	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
<-118	Crane Carrier	Pull Type	1	97-518-66-1X	102	97-35-102-1X	97-19-52-1X	97-15-56-1X
-119	Eagle International	Pull Type	1	97-518-66-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-120	Ford	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
-121	Freightliner	Pull Type	2	97-518-52-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-122	Freightliner	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-123	Freightliner	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-124	Navistar	Pull Type	2	97-518-52-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X
*-125	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-126	Navistar	Pull Type	2	97-518-52-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
*-127	Navistar	Pull Type	1	97-518-66-1X	-	97-35-102-1X	97-19-52-1X	97-15-56-1X
-128	Eagle International	Pull Type	1	97-518-66-1X	-	97-35-105-1X	97-19-52-1X	97-15-56-1X

* - With Countershaft Oil Pump

- With 97-454-2-1X has (1) ea. 97-452-2 Speedo Sleeve and 97-463-34 Oil Sleeve

** - Includes 313291 Neutral Start Switch

< - With Clutch Brake Assembly 127760X



Models PS110-7A/7B & PS145-7A

TABULATED BILLS OF MATERIAL

T210-PS145-7

Tab No.	Mainshaft Rear Brg. Cap Assy. H-2	Speedo Drive or Sig. Gear B-30	Speedo Driven H-7	Compan. Flng. or Yoke 21	Shft. Hsg. Assembly 11-14	Lever & Dome 18	Remote Control 16
Model PS145-7A							
301520							
-101	97-19-53-1X	97-452-19	-	-	97-16-99-4X	-	-
-102	97-19-53-1X	-	-	-	97-16-99-3X	-	-
-103	97-19-53-1X	-	-	-	97-16-99-3X	-	-
-104	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-105	97-19-53-1X	-	-	-	97-16-99-4X	-	-
-106	97-19-53-1X	97-452-18	97-453-15	-	97-16-99-3X	-	-
-107	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-108	97-19-53-1X	97-452-19	-	-	97-16-99-3X	-	-
-109	97-19-53-1X	97-452-19	-	-	97-16-100-3X	-	-
-110	97-19-53-1X	97-452-20	97-453-16 *	-	97-16-99-3X	-	-
-111	97-19-53-1X	97-452-19	-	6.3-4-1251-1	97-16-100-3X	-	-
-112	97-19-53-1X	97-452-19	-	6.5-4-3821-1	97-16-100-3X	-	-
-113	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-114	97-19-53-1X	97-452-19	-	6.5-4-3821-1	97-16-100-3X	-	-
-115	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-99-3X	-	-
-116	97-19-53-1X	97-452-19	-	-	97-16-99-3X	-	-
-117	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-100-3X	-	-
-118	97-19-53-1X	97-452-18	97-453-15	-	97-16-99-3X	-	-
-119	97-19-53-1X	-	-	6.5-1-2691	97-16-99-3X	-	-
-120	97-19-53-1X	97-452-19	-	6-4-7691-1	97-16-100-3X	-	-
-121	97-19-53-1X	97-452-19	-	-	97-16-100-3X	-	-
-122	97-19-53-1X	97-452-19	-	6.3-4-1251-1	97-16-100-3X	-	-
-123	97-19-53-1X	97-452-19	-	6.3-4-1251-1	97-16-99-3X	-	-
-124	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-125	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-126	97-19-53-1X	-	-	-	97-16-100-3X	-	-
-127	97-19-53-1X	-	-	-	97-16-99-3X	-	-
-128	97-19-53-1X	-	-	6-4-7691-1	97-16-99-3X	-	-

SUPERSESSION LIST OF HEAVY DUTY 7 SPEEDS



T210-PS145-7

BILLS OF MATERIAL

1372A to PS145-7A				1372A to PS145-7A			
1372A	1372A	PS140-7A	PS145-7A	1372A	1372A	PS140-7A	PS145-7A
301271-1	301398-1	301444-1		301271-80	301398-80	301444-91	
301271-2	301398-2	301444-2		301271-81	301398-81	301444-77	
301271-3	301398-3	NONE		301271-82	301398-82	NONE	
301271-4	301398-4	NONE		301271-83	301398-83	NONE	
301271-5	301398-5	NONE		301271-84	301398-84	301444-96	
301271-6	301398-6	NONE		301271-85	301398-85	NONE	
301271-7	301398-7	310444-85		301271-86	301398-86	NONE	
301271-8	301398-8	NONE		301271-87	301398-87	NONE	
301271-9	301398-9	NONE		301271-88	301398-88	NONE	
301271-10	301398-10	NONE		301271-89	301398-89	NONE	
301271-11	301398-11	NONE		301271-90	301398-90	301444-10	301520-103
301271-12	301398-12	301444-3		301271-91	301398-91	301444-11	301520-104
301271-14	301398-14	NONE		301271-92	301398-92	NONE	
301271-16	301398-16	NONE		301271-93	301398-93	NONE	
301271-17	310398-17	NONE		301271-94	301398-94	NONE	
301271-18	301398-18	NONE		301271-95	301398-95	301444-12	
301271-19	301398-19	NONE		301271-96	301398-96	NONE	
301271-20	301398-20	301444-54		301271-97	301398-97	NONE	
301271-21	301398-21	NONE		301271-98	301398-98	NONE	
301271-22	301398-22	301444-4		301271-99	301398-99	NONE	
301271-23	301398-23	NONE		301271-100	301398-100	301444-80	
301271-24	301398-24	NONE		301271-101	301398-101	NONE	
301271-25	301398-25	NONE		301271-102	301398-102	NONE	
301271-26	301398-26	NONE		301271-103	301398-103	NONE	
301271-27	301398-27	NONE		301271-104	301398-104	NONE	
301271-28	301398-28	NONE		301271-105	301398-105	NONE	
301271-29	301398-29	NONE		301271-106	301398-106	NONE	
301271-30	301398-30	NONE		301271-107	301398-107	NONE	
301271-31	301398-31	NONE		301271-108	301398-108	NONE	
301271-33	301398-33	NONE		301271-109	301398-109	301444-13	
301271-38	301398-38	NONE		301271-110	301398-110	NONE	
301271-39	301398-39	NONE		301271-111	301398-111	301444-14	
301271-41	301398-41	NONE		301271-112	301398-112	NONE	
301271-42	301398-42	301444-75		301271-113	301398-113	NONE	
301271-43	301398-43	NONE		301271-114	301398-114	NONE	
301271-44	301398-44	NONE		301271-115	301398-115	NONE	
301271-46	301398-46	301444-5		301271-116	301398-116	301444-74	301520-118
301271-47	301398-47	NONE		301271-117	301398-117	301444-15	301520-126
301271-49	301398-49	NONE		301271-118	301398-118	NONE	
301271-51	301398-51	NONE		301271-119	301398-119	301444-70	
301271-54	301398-54	301444-6		301271-120	301398-120	301444-16	
301271-55	301398-55	NONE		301271-121	301398-121	NONE	
301271-56	301398-56	NONE		301271-122	301398-122	301444-19 *	
301271-58	301398-58	301444-78		301271-123	301398-123	301444-17	
301271-59	301398-59	301444-7	301520-101	301271-124	301398-124	NONE	
301271-69	301398-69	NONE		301271-125	301398-125	NONE	
301271-71	301398-71	301444-52		301271-126	301398-126	NONE	
301271-72	301398-72	301444-8	301520-102	301271-127	301398-127	NONE	
301271-73	301398-73	NONE		301271-128	301398-128	NONE	
301271-74	301398-74	NONE		301271-129	301398-129	301444-18 *	
301271-75	301398-75	NONE				301444-45 *	301520-111
301271-76	301398-76	301444-9				301444-46 *	301520-112
301271-77	301398-77	NONE		301271-130	301398-130	301444-19 *	
301271-78	301398-78	NONE				301444-47 **	
301271-79	301398-79	NONE				301444-48 ***	

* WITH 1710 END YOKE ** WITH 1760 END YOKE *** WITH 1810 END YOKE



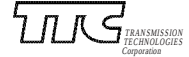
SUPERSESSON LIST OF HEAVY DUTY 7 SPEEDS

BILLS OF MATERIAL

T210-PS145-7

1372A to PS145-7A				1372A to PS145-7A			
1372A	1372A	PS140-7A	PS145-7A	1372A	1372A	PS140-7A	PS145-7A
301271-131	301398-131	301444-20		-	'301398-182	301444-43	
301271-132	301398-132	301444-21		-	301398-183	NONE	
301271-133	301398-133	NONE		-	301398-184	301444-68	301520-105
301271-134	301398-134	NONE		-	301398-185	301444-51	
301271-135	301398-135	301444-22		-	301398-186	NONE	
301271-136	301398-136	301444-23		-	301398-187	301444-62	
301271-137	301398-137	NONE		-	301398-188	NONE	
301271-138	301398-138	NONE		-	301398-189	NONE	
301271-139	301398-139	301444-50		-	301398-190	301444-69	
301271-140	301398-140	NONE		-	301398-191	301444-38	301520-109
301271-141	301398-141	NONE		-	301398-192	301444-49	301520-113
301271-142	301398-142	NONE		-	301398-193	NONE	
301271-143	301398-143	301444-24		-	301398-194	301444-61	
301271-144	301398-144	NONE		-	301398-195	NONE	
301271-145	301398-145	NONE		-	-	301444-55	
301271-146	301398-146	NONE		-	-	301444-56	
301271-147	301398-147	NONE		-	-	301444-58	
301271-148	301398-148	NONE		-	-	301444-59	301520-116
301271-149	301398-149	NONE		-	-	601444-64	
301271-150	301398-150	301444-25		-	-	301444-67	301520-117
-	301398-151	301444-26		-	-	301444-71	
-	301398-152	NONE		-	-	301444-72	
-	301398-153	301444-27		-	-	301444-73	
-	301398-154	301444-28	301520-106	-	-	301444-79	301520-119
-	301398-155	301444-29		-	-	301444-81	301520-120
-	301398-156	301444-30		-	-	301444-82	
-	301398-157	301444-31		-	-	301444-83	
-	301398-158	NONE		-	-	301444-84	
-	301398-159	NONE		-	-	301444-86	
-	301398-160	301444-32	301520-107	-	-	301444-88	301520-121
-	301398-161	301444-33		-	-	301444-89	301520-122
-	301398-162	301444-34		-	-	301444-90	
-	301398-163	NONE		-	-	301444-92	
-	301398-164	301444-60	301520-115	-	-	301444-93	301520-123
-	301398-165	301444-35		-	-		
-	301398-166	NONE		-	-	301444-63	301520-116
-	301398-167	NONE		-	-	301444-64	
-	301398-168	NONE		-	-	301444-65	
-	301398-169	301444-36	301520-108	-	-	301444-66	
-	301398-170	301444-37		-	-	NONE	301520-110
-	301398-171	NONE		-	-	NONE	301520-124
-	301398-172	NONE					
-	301398-173	301444-39					
-	301398-174	301444-40	301520-125				
-	301398-175	301444-53	301520-127				
-	301398-176	301444-41					
-	301398-177	NONE					
-	301398-178	NONE					
-	301398-179	NONE					
-	301398-180	301444-57					
-	NONE	301444-42	301520-114				

Models PS110-7A/7B & PS145-7A
SUPERSESSION LIST OF HEAVY DUTY 7 SPEEDS



T210-PS145-7

BILLS OF MATERIAL

1372B to PS125-7B				1372B to PS125-7B			
1372B	1372B	PS125-7B	PS110-7B	1372B	1372B	PS125-7B	PS110-7B
301325-1	301405-1	301445-1		-	301405-35	301445-26	
301325-2	301405-2	301445-2		-	301405-36	NONE	
301325-3	301405-3	301445-3	301518-1	-	301405-37	301445-19	
301325-4	301405-4	301445-4		-	301405-38	NONE	
301325-5	301405-5	NONE		-	301405-39	NONE	
301325-6	301405-6	NONE		-	301405-40	301445-20	
301325-7	301405-7	301445-5		-	301405-41	NONE	
301325-8	301405-8	NONE		-	301405-42	NONE	
301325-9	301405-9	301445-6		-	301405-43	NONE	
301325-10	301405-10	301445-7	301518-2	-	301405-44	301445-21	
301325-11	301405-11	NONE		-	301405-45	NONE	
301325-12	301405-12	301445-8		-	301405-46	NONE	
301325-13	301405-13	301445-9	301518-3	-	301405-47	NONE	
301325-14	301405-14	NONE		-	301405-49	301445-29	
301325-15	301405-15	301445-10		-	-	301445-22	
301325-16	301405-16	NONE		-	-	301445-23	
301325-17	301405-17	NONE		-	-	301445-25	
301325-18	301405-18	NONE		-	-	301445-30	301518-7
301325-19	301405-19	NONE		-	-	301445-31	301518-8
301325-20	301405-20	301445-11	301518-4	-	-	301445-32	
301325-21	301405-21	301445-12		-	-	301445-33	
301325-22	301405-22	NONE		-	-	301445-34	
301325-23	301405-23	301445-13		-	-	301445-35	
301325-24	301405-24	NONE		-	-	301445-36	301518-5
301325-25	301405-25	301445-14		-	-	301445-37	301518-9
301325-26	301405-26	NONE		-	-	301445-38	
301325-27	301405-27	NONE		-	-	301445-39	
-	301405-28	301445-27		-	-	301445-40	301518-10
-	301405-29	301445-15		-	-	301445-41	301518-11
-	301405-30	301445-24		-	-	301445-42	
-	301405-31	301445-16		-	-	301445-43	301518-12
-	301405-32	301445-17		-	-	-	301518-13
-	301405-33	NONE		-	-	-	301518-14
-	301405-34	301445-18	301518-6	-	-	-	301518-15



Models PS110-7A/7B & PS145-7A **SUPERSESSON LIST OF HEAVY DUTY 7 SPEEDS**

BILLS OF MATERIAL

T210-PS145-7

9072A to PS110-7A			9072A to PS110-7A		
9072A	PS97-7A	PS110-7A	9072A	PS97-7A	PS110-7A
301321-1	301446-1	301519-51	301321-26	301446-13	
301321-2	NONE		301321-27	NONE	
301321-3	NONE		301321-28	NONE	
301321-4	NONE		301321-29	301446-14	
301321-5	301446-2	301519-52	301321-30	301446-15	
301321-6	301446-3		301321-31	301446-23	
301321-7	301446-4	301519-53	301321-32	301446-19	
301321-8	NONE		301321-33	NONE	
301321-9	NONE		301321-34	NONE	
301321-10	301446-5	301519-54	-	301446-17	301519-56
301321-11	301446-24		-	301446-18	
301321-12	NONE		-	301446-21	
301321-13	NONE		-	301446-16	
301321-14	301446-6		-	301446-22	301519-57
301321-15	301446-7		-	301446-25	
301321-16	301446-20		-	301446-27	
301321-17	NONE		-	301446-28	
301321-18	301446-8		-	301446-29	
301321-19	NONE		-	301446-30	301519-58
301321-20	NONE		-	301446-31	
301321-21	301446-9		-	301446-32	301519-60
301321-22	301446-10		-	-	301519-59
301321-23	301446-11		-	-	301519-61
301321-24	301446-12		-	-	301519-62

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