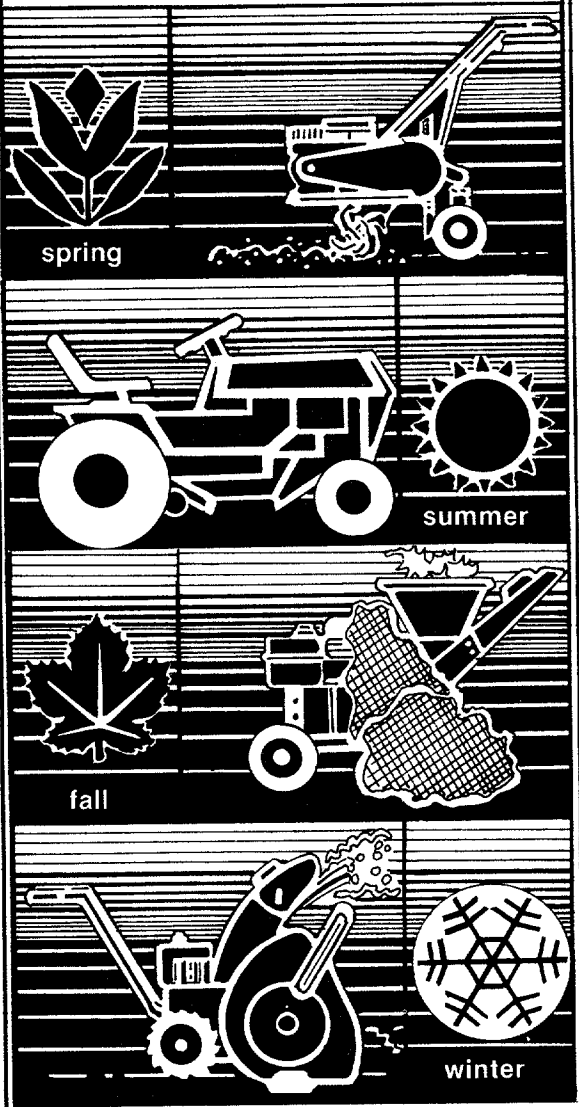


OWNER'S GUIDE

OUTDOOR POWER EQUIPMENT
for all seasons



28" TILLER ATTACHMENT

Model Numbers
195-746-000
19746S
TMO-33603B

Important:
Read
Instructions Carefully

Thank you for purchasing
an American-built product.

LIMITED WARRANTY

For one year from the date of original retail purchase, MTD PRODUCTS INC will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser unless such return is requested by MTD PRODUCTS INC.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, motor, battery, battery charger or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

This warranty will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of MTD.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by MTD.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

ASSEMBLY INSTRUCTIONS



Right and left hand side of the unit is determined from the driver's seat, facing forward.

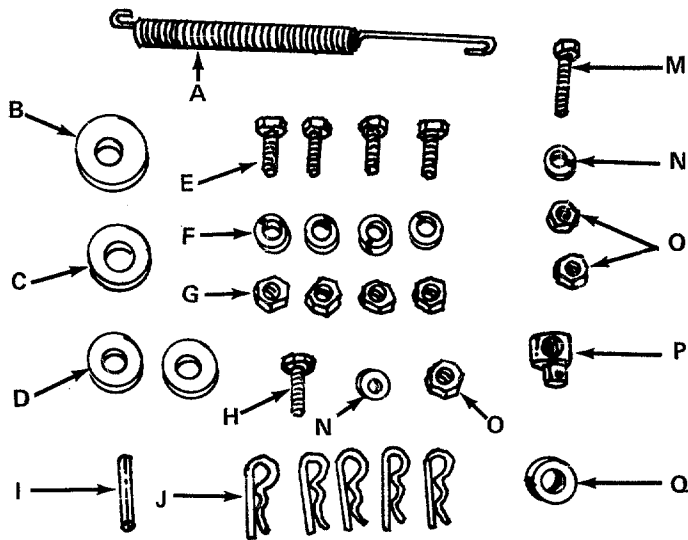


FIGURE 1

Contents of Hardware Pack (See figure 1):

- A (1) Extension Spring
- B (1) Flat Washer 1/2" I.D. x 1-1/2" O.D.
- C (1) Flat Washer 5/8" I.D. x 1-1/4" O.D.
- D (2) Flat Washers 1/2" I.D. x 1" O.D.
- E (4) Hex Bolts 3/8-24 x 7/8" Long
- F (4) Lock Washers 3/8" I.D.
- G (4) Hex Nuts 3/8-24 Thread
- H (1) Hex Bolt 5/16-24 x 1" Long
- I (1) Spirol Pin
- J (5) Hairpin Cotter
- M (1) Hex Bolt 5/16-24 x 1-1/2" Long
- N (2) Lock Washers 5/16" I.D.
- O (3) Hex Nuts 5/16-24 Thread
- P (1) Ferrule
- Q (1) Spacer 1/2" I.D. x 1" O.D. x 1/2" Long

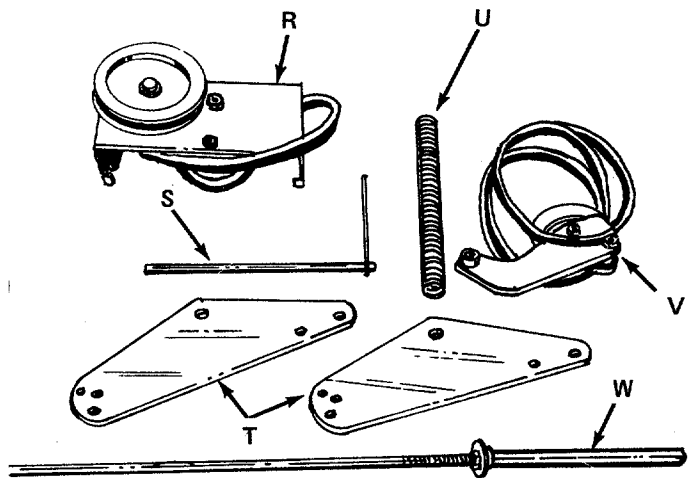


FIGURE 2

Loose Parts in Carton (See figure 2):

- R (1) Carriage Bracket Assembly
- S (1) Idler Bracket Support Arm Assembly
- T (2) Support Pivot Brackets
- U (1) Compression Spring
- V (1) Idler Bracket Assembly
- W (1) Lift Rod Assembly

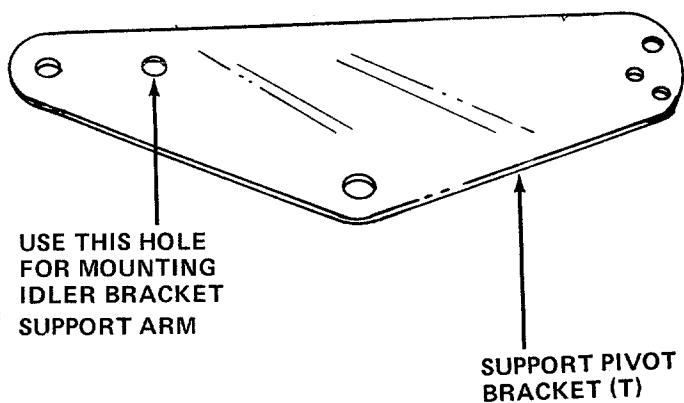


FIGURE 3

1. Remove the cutting deck from your tractor if one is attached.
2. Preassemble the idler bracket support arm (S) to one support pivot bracket (T) and idler bracket assembly as follows.
 - A. Place the idler bracket support arm through the hole in support pivot bracket as shown in figures 3 and 4.

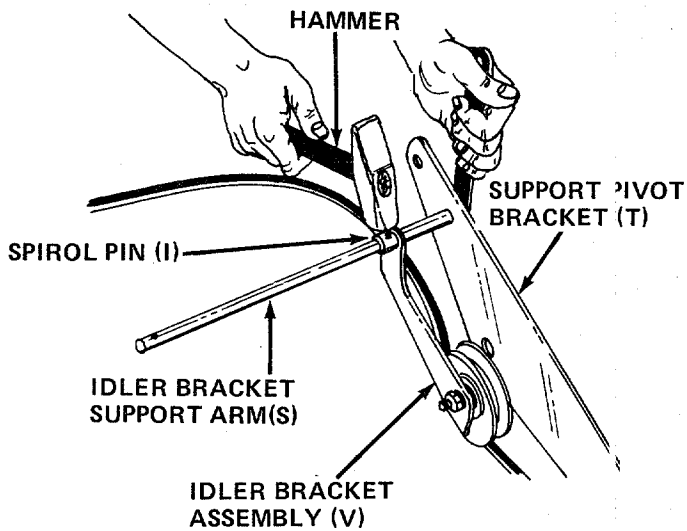


FIGURE 4

B. Next, slide the idler bracket assembly (V) over the idler bracket support arm. Secure with spirol pin (I). See figure 4.

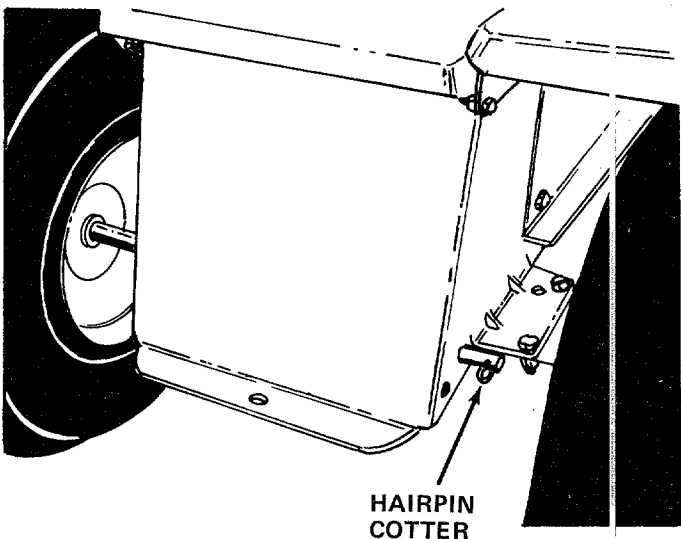


FIGURE 5

3. Remove the two hairpin cottes on the rear of your tractor. See figure 5. These will be re-assembled to your unit in steps 4 and 9.
4. Place the support pivot bracket (with idler bracket and support arm attached) in position on the rear left hand side of tractor. Place large hole in pivot bracket over shaft on tractor. Secure with one hairpin cotter removed in step 3.

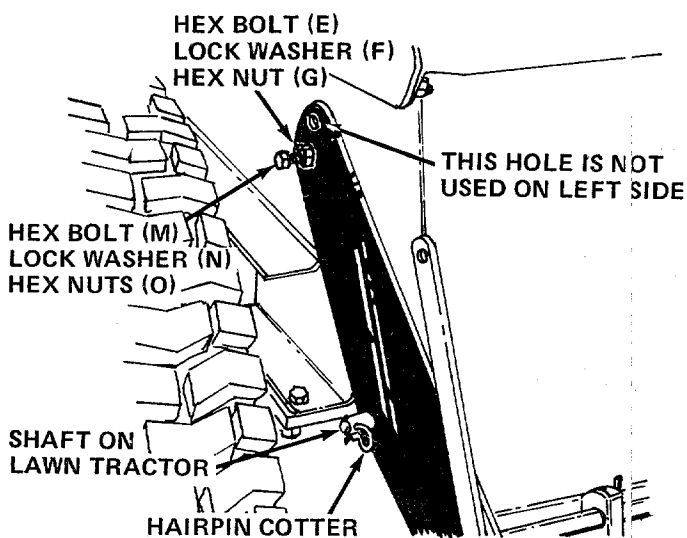


FIGURE 6

5. Thread one hex nut (O) all the way onto hex bolt (M) (1-1/2" long).
6. Place the support pivot bracket in position so the forward hole (larger) in the bracket aligns with the larger hole in the tractor frame.
7. Secure the support pivot bracket to the tractor by placing hex bolt (M) (with nut assembled) in the smaller hole in plate which aligns with hole on tractor. Start hex nut (O) and lock washer (N) by hand. See figure 6.
8. Place one hex bolt (E) through top forward hole in bracket and tractor frame. Secure with lock washer (F) and hex nut (G).
9. Assemble the other support pivot bracket to the right hand side of tractor in the same manner, except use hex bolt (H) (1" long) instead of the longer hex bolt and the extra hex nut.
10. Tighten securely all four nuts and bolts which were used in assembly of pivot support brackets.
11. Secure end of idler bracket support arm assembly on the right side of tractor with one flat washer (D) and hairpin cotter (J).

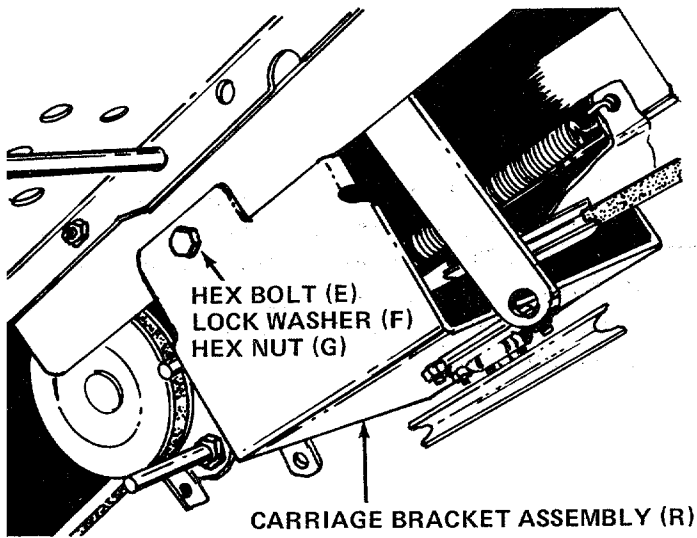


FIGURE 7

12. Place carriage bracket assembly (R) in position beneath the running board support rod on the tractor. Secure each side of carriage bracket to frame with hex bolts (E), lock washers (F) and hex nuts (G). Tighten securely. See figure 7.

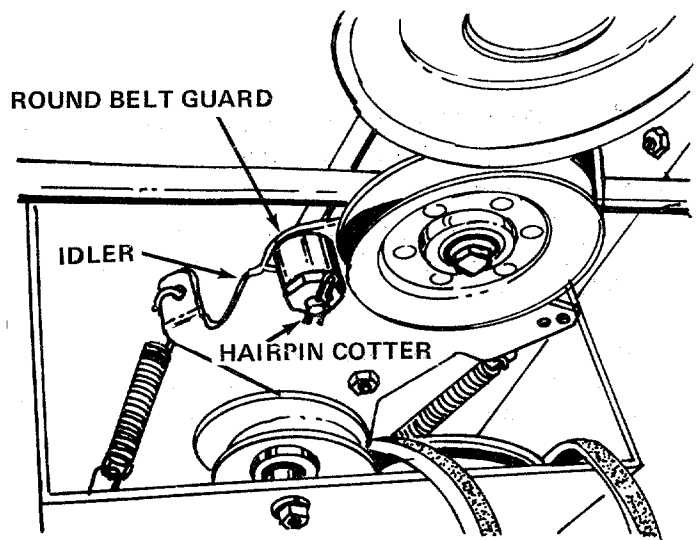


FIGURE 8

13. Remove the round belt guard from the idler on tractor by removing the hairpin cotter. See figure 8.

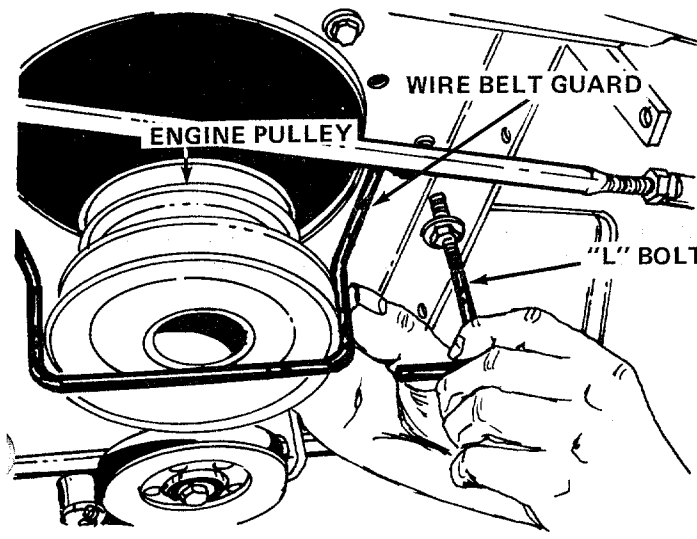


FIGURE 9

14. Unscrew the "L" bolt and swing the wire belt guard on the engine pulley forward. See figure 9.

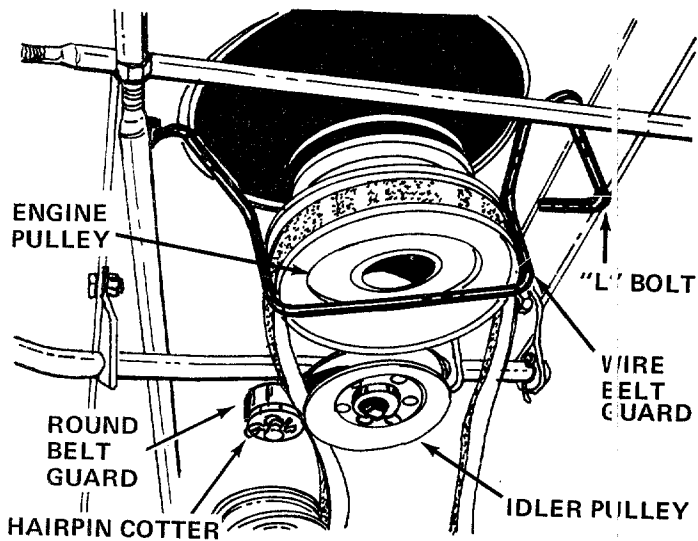


FIGURE 10

15. Place the belt which is preassembled to the carriage bracket assembly around the idler pulley and engine pulley on the tractor. See figure 10.
16. Reassemble the round belt guard and hairpin cotter. Reassemble the wire belt guard and "L" bolt. See figure 10.

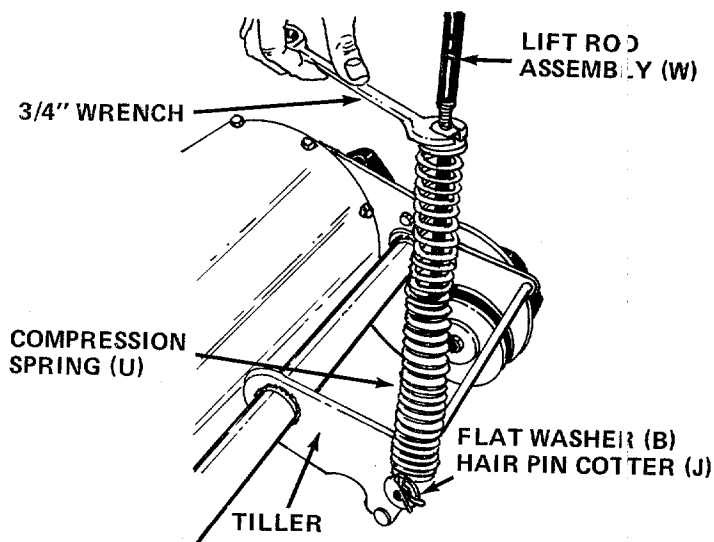


FIGURE 11

17. Place the large compression spring (U) over the slotted end of lift rod assembly (W).
18. Place slotted end of lift rod (with spring attached) over the rod on right hand side of tiller as shown in figure 11. Secure with flat washer (B) and hairpin cotter (J).
19. Using a 3/4" or adjustable wrench, tighten the hex nut which is on the lift rod assembly until the spring is compressed to 11" long. See figure 11.

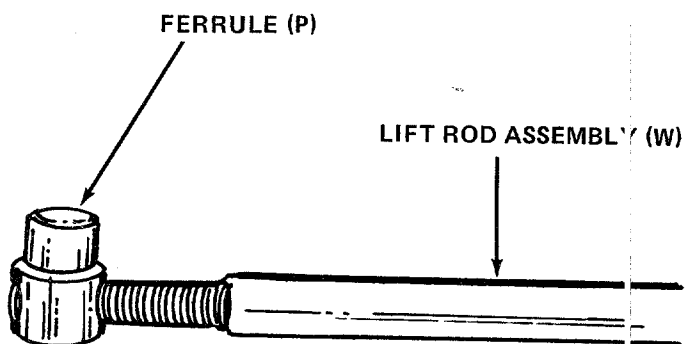


FIGURE 12

20. Thread adjustment ferrule (P) on other end of lift rod assembly a few turns. See figure 12.

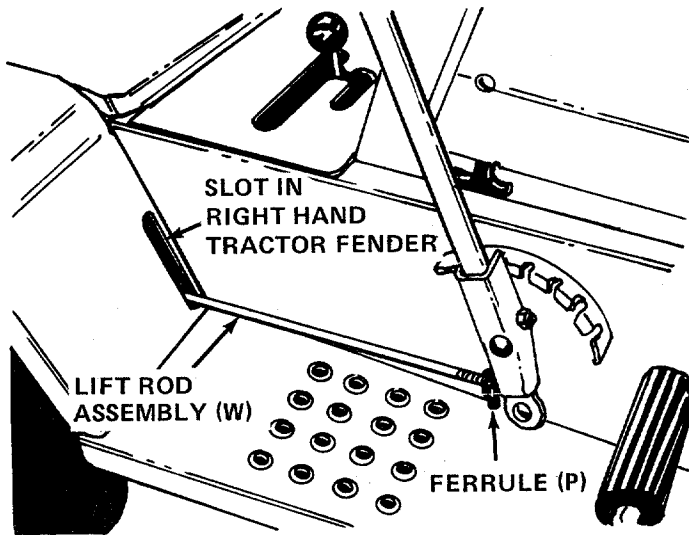


FIGURE 13

21. Place the tiller in position behind the tractor. Slide the tiller forward so the lift rod assembly and ferrule go through the slot in the right hand fender on the tractor. See figure 13.

NOTE

On models prior to 1984, it is necessary to extend the slot in the fender approximately 1-1/2" further down toward the running board. The slot should measure approximately 4-3/8".

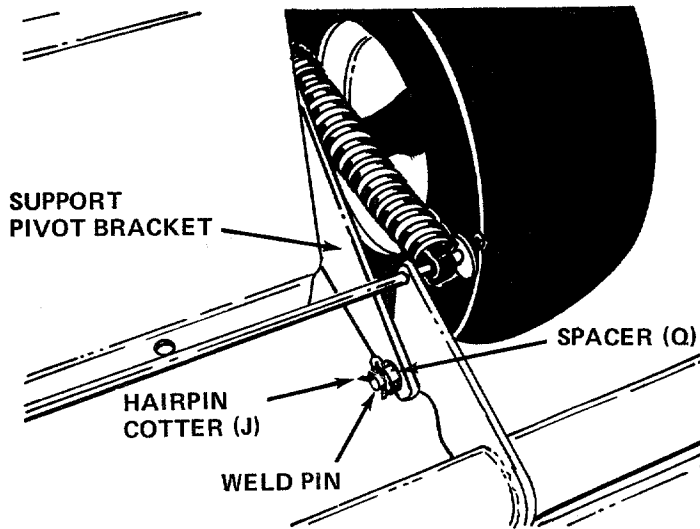


FIGURE 14

22. There are two weld pins on the front of the tiller. Push the tiller forward, then to the left so the weld pins go through the bottom hole in the pivot support brackets. See figures 14 and 15.
23. Secure the weld pin on the right hand side of tiller using spacer (Q) and hairpin cotter (J). See figure 14.

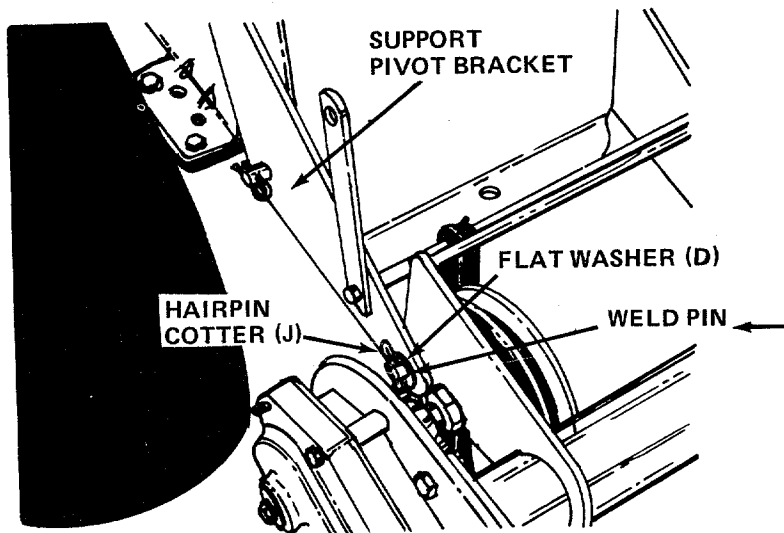


FIGURE 15

24. Secure the weld pin on the left hand side of tiller using one flat washer (D) and hairpin cotter (J). See figure 15.

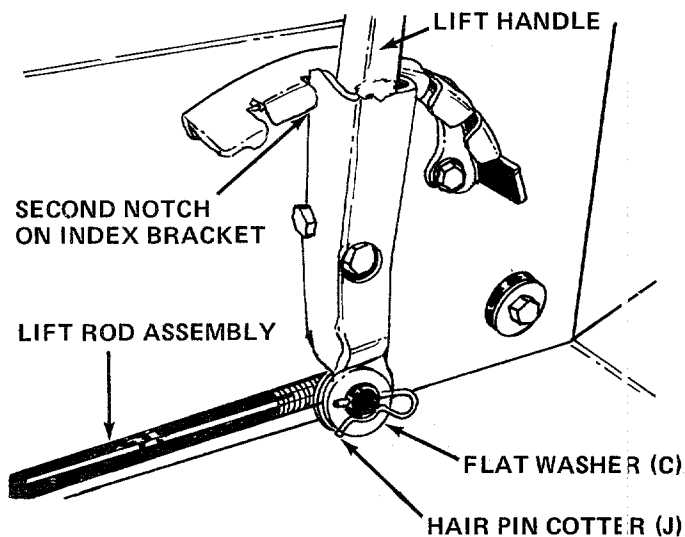


FIGURE 16

25. Move the lift lever on the tractor to the second notch on the index bracket as shown in figure 16.
26. Thread the adjustment ferrule onto the lift rod assembly until it lines up with the bottom hole in the lift handle. Secure ferrule to lift handle using flat washer (C) and hairpin cotter (J). See figure 16.



This initial adjustment setting provides a tilling depth of approximately 4". Refer to Control section for adjustment information.

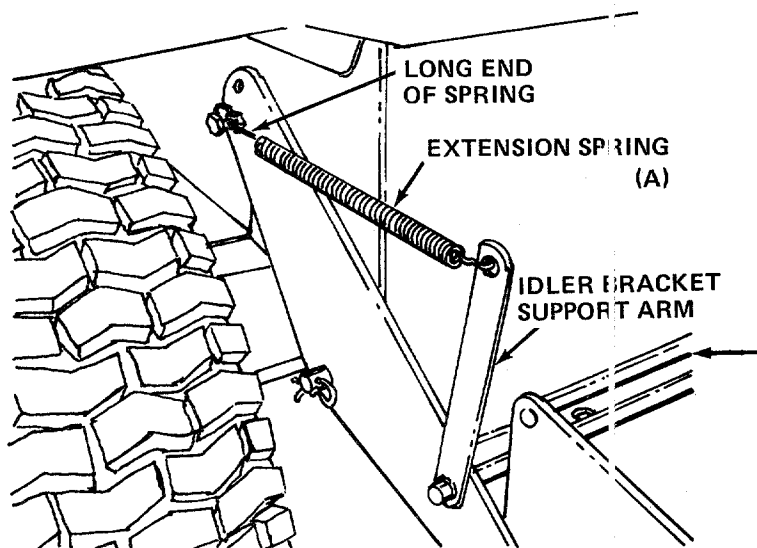


FIGURE 17

27. Hook the short end of extension spring (A) to the idler bracket support arm on the left side of unit. Hook the longer end of spring to the hex bolt on support pivot bracket which was assembled in step 7. See figure 17.

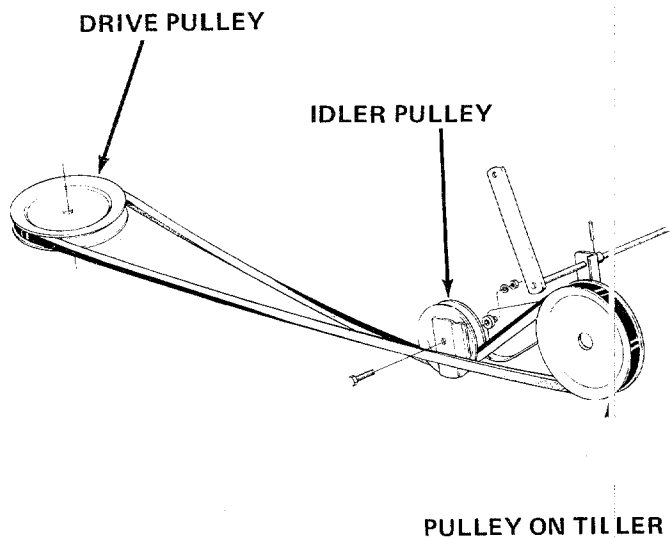


FIGURE 18

28. Assemble the belt as follows (refer to figure 18).
 - A. Belt is attached to the idler pulley assembly. Back of the belt (flat side) goes against the idler pulley.
 - B. Slip belt up and over pulley on tiller ("V" side of belt goes against the pulley).
 - C. Twist the belt 90° to the right as shown in figure 18. Slip the belt around the drive pulley on the tractor.



The tines on the tiller are designed to rotate in the opposite direction of the wheels on the tractor. If they rotate in same direction as the wheels, the belt is twisted in the wrong direction. Unhook the belt from the drive pulley and twist in the opposite direction.

CONTROLS

LIFT LEVER

The lift lever which is used to raise and lower the tiller is located on the right hand side of the tractor. To raise the tiller, pull back on lift lever. To lower tiller, push lift lever forward slowly.

P.T.O. LEVER

The P.T.O. lever is located on the right hand side of the tractor. The tines are engaged by lifting the P.T.O. lever to the "Engaged" position. Lower the P.T.O. lever to the "Disengaged" position to stop the tine rotation.

ADJUSTMENT FERRULE

The ferrule on the lift rod assembly provides tilling depth adjustment. Move the ferrule toward the front of the tractor (end of the rod) for deeper tilling depth. Move it further back on the rod to till shallower.

MAINTENANCE

CHAIN CASE LUBRICATION

The chain case is sealed at the factory and does not require checking or changing. If the chain case is disassembled for repair, replace the grease with 20 ounces of plastilube "O" grade grease (part number 737-0133, 14 ounce container).

BEARING CUP

At least once a season, remove the bearing cup on the right hand side of tiller housing. Clean and refill with 2 ounces of plastilube "O" grade grease (part number 737-0133).

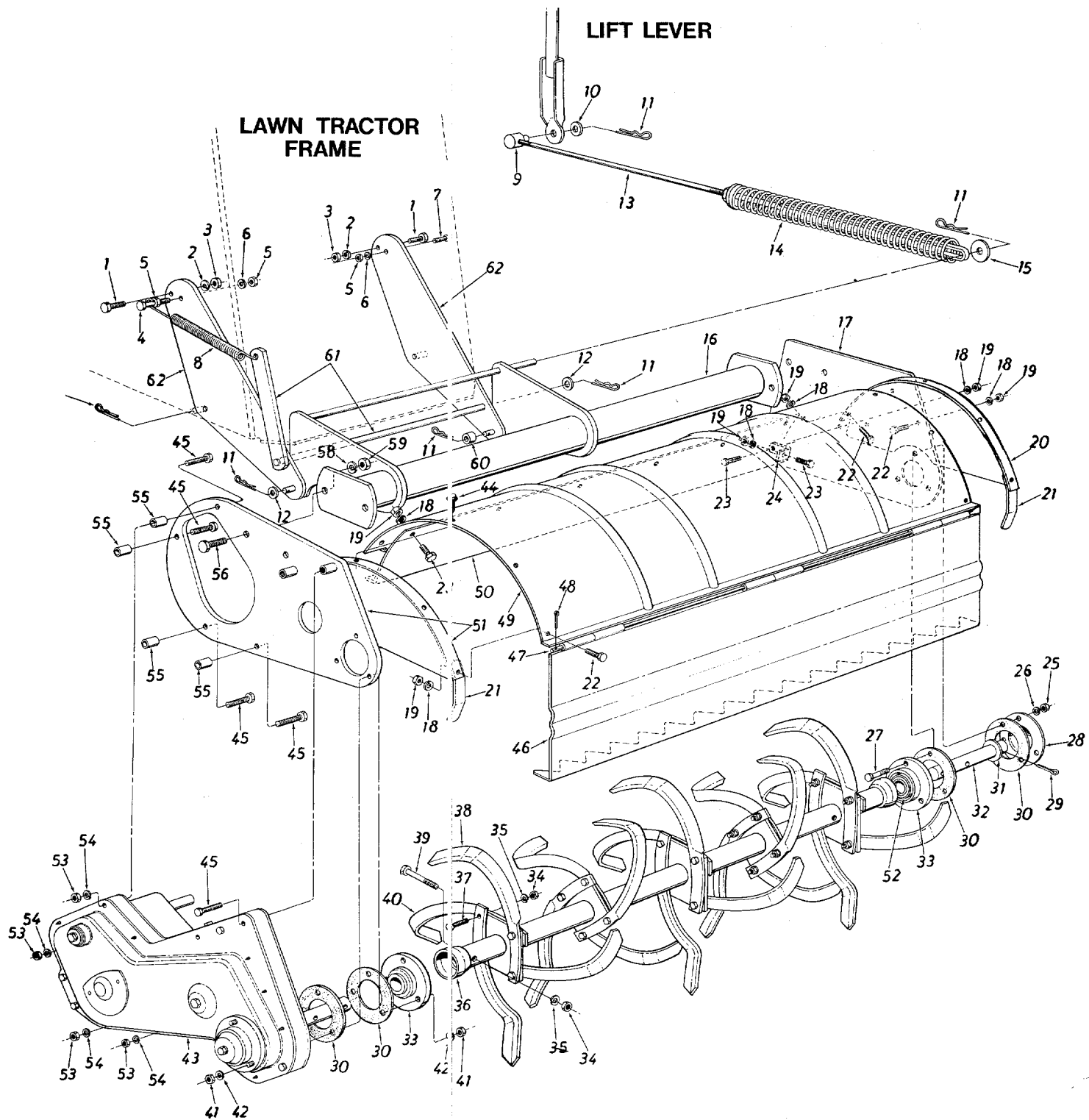
LIMITED TORQUE PULLEY

If the limited torque clutch is disassembled for any reason, reassemble as shown on page 12.



Torque setting is 350 in. lbs.

Model 746 and 19746



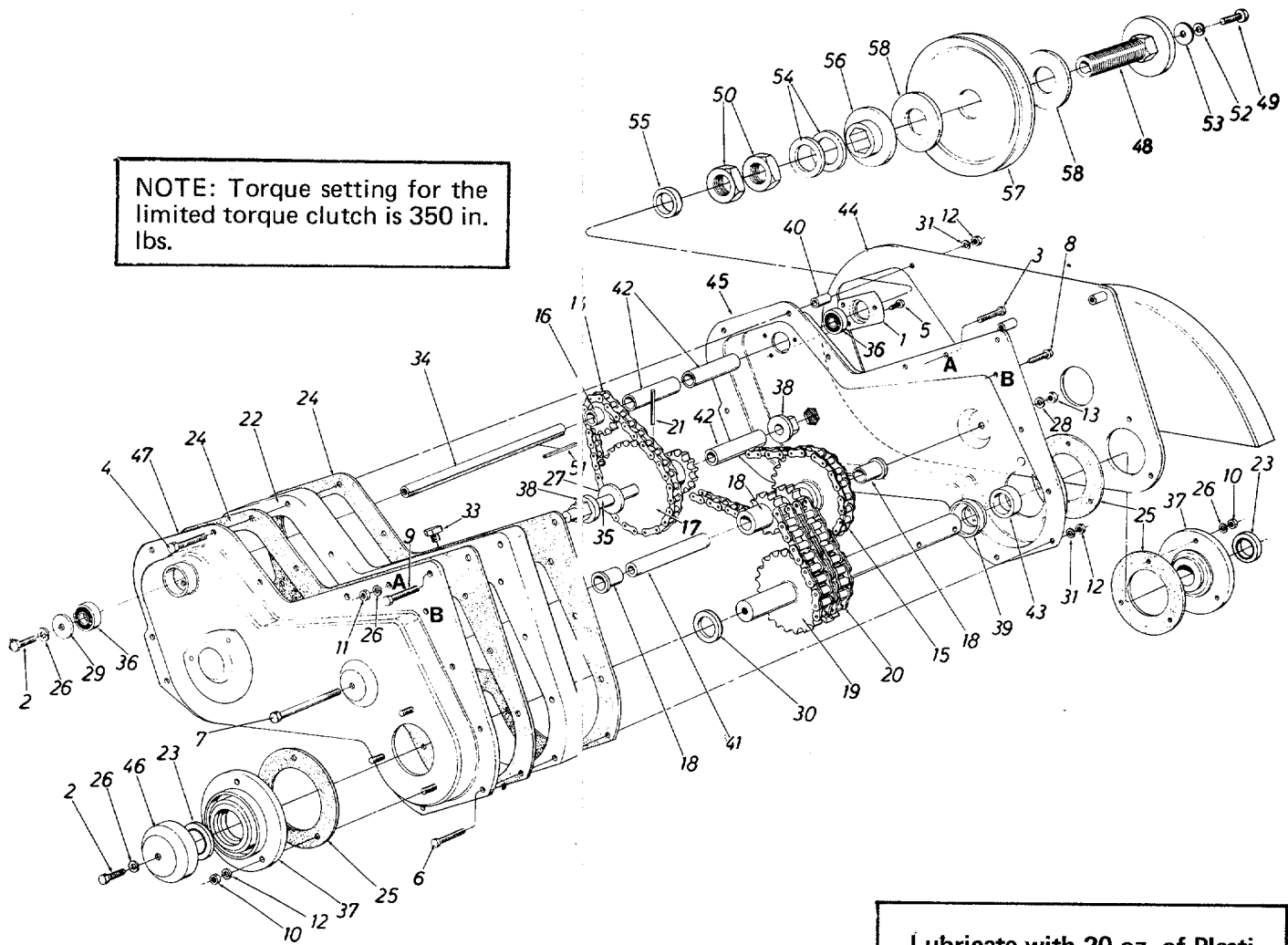
Model 746

PARTS LIST FOR MODEL 746 28" TILLER ATTACHMENT

REF. NO.	PART NO.	DESCRIPTION	NEW PART	REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	710-0696	Hex Bolt 3/8-24 x .88" Lg.*		30	721-0133	Gasket for Brg. Housing	
2	736-0217	L.-Wash. 3/8" I.D. Heavy Duty		31	736-0246	Fl.-Wash. 1.25" I.D. x 2.00" O.D. x .06	
3	712-0241	Hex Nut 3/8-24 Thd.*					
4	710-0624	Hex Bolt 5/16-24 x 1.50" Lg.*		32	738-0630	Tine Shaft R.D. 1.25" Dia. x 6.25" Lg.	N
5	712-0123	Hex Nut 5/16-24 Thd.*					
6	736-0119	L.-Wash. 5/16" I.D.*		33	741-0417	Bearing Housing w/Bearing	
7	710-0117	Hex Bolt 5/16-24 x 1.00" Lg.*		34	712-0241	Hex Nut 3/8-24 Thd.*	
8	732-0185	Extension Spring .56" O.D. x 7.75" Lg.		35	736-0217	L.-Wash. 3/8" I.D. Heavy Duty	
				36	784-0107	Tine Adapter Ass'y.	N
9	711-0770	Adjustment Ferrule 1/2-13 Thd.		37	710-0459	Hex Bolt 3/8-24 x 1.50" Lg.*	
				38	742-0243	Tine 14" x 5/16"	
10	736-0187	Fl.-Wash. .640" I.D. x 1.24" O.D. x .060		39	710-0331	Hex Bolt 3/8-24 x 2.25" Lg.*	
				40	742-0244	Tine 14" x 5/16"	
11	714-0145	Intern. Cotter Pin 1/2" Dia.		41	712-0158	Hex Cent. L.-Nut 5/16-18 Thd.	
12	736-0272	Fl.-Wash. .510" I.D. x 1.0" O.D. x .060		42	736-0119	L.-Wash. 5/16" I.D.*	
				43	884-0061	Chain Case Ass'y. Comp.	
13	784-0050	Lift Rod Ass'y. 39.0" Lg.		44	710-0604	Hex Wash. TT Tap. Scr. 5/16-18 x .62" Lg.	
14	732-0460	Compression Spring 1.50" O.D. x 15.0" Lg.		45	710-0564	Hex Bolt 1/4-20 x 2.75" Lg.*	
15	736-0208	Fl.-Wash. .51" I.D. x 1.50" O.D. x .075		46	784-0076	Tine Shield - Hinge Flap Ass'y. 30"	
				47	747-0479	Tiller Flap Rod 1/4" Dia. x 29.7" Lg.	
16	784-0063	Pivot Bracket Assembly					
17	784-0056	Tiller Housing Plate-R.H.		48	714-0115	Cotter Pin 1/8" Dia. x 1.00" Lg.*	
18	736-0119	L.-Wash. 5/16" I.D.*					
19	712-0123	Hex Nut 5/16-24 Thd.*		49	784-0074	Tine Shield Ass'y. 30" Lg.	
20	784-0058	End Cover - Tine Shield-R.H.		50	784-0060	Reinforcement Brk't.-Tine Shield	
21	784-0069	Tine Shield Hinge Flap Support		51	784-0055	Tiller Housing Plate Ass'y.	
22	710-0157	Hex Bolt 5/16-24 x .75" Lg.*		52	721-0192	Oil Seal Double Lip-1-1/4" Shaft	
23	710-0237	Hex Bolt 5/16-24 x .62" Lg.*		53	712-0287	Hex Nut 1/4-20 Thd.*	
				54	736-0329	L.-Wash. 1/4" I.D.*	
24	12541	Chute Pivot Bracket		55	750-0599	Spacer .28" I.D. x .62" O.D. x .90" Lg.	
25	712-0158	Hex Cent. L-Nut 5/16-18 Thd.		56	710-0592	Hex Bolt 1/2-13 x 1.00" Lg.*	
				58	736-0921	L.-Wash. 1/2" I.D.*	
26	736-0119	L.-Wash. 5/16" I.D.*		59	712-0206	Hex Nut 1/2-13 Thd.*	
27	710-0376	Hex Bolt 5/16-18 x 1.0" Lg. (Grade 5)		60	711-0212	Spacer .50" I.D. x 1.00" O.D. x .50" Lg.	
28	784-0068	Grease Housing Cup		61	784-0073	Idler Bracket Support Arm Ass'y.	
29	714-0470	Cotter Pin 1/8" Dia. x 1.25" Lg.*		62	784-0064	Pivot Bracket Support	

Model 746 and 19746

NOTE: Torque setting for the limited torque clutch is 350 in. lbs.



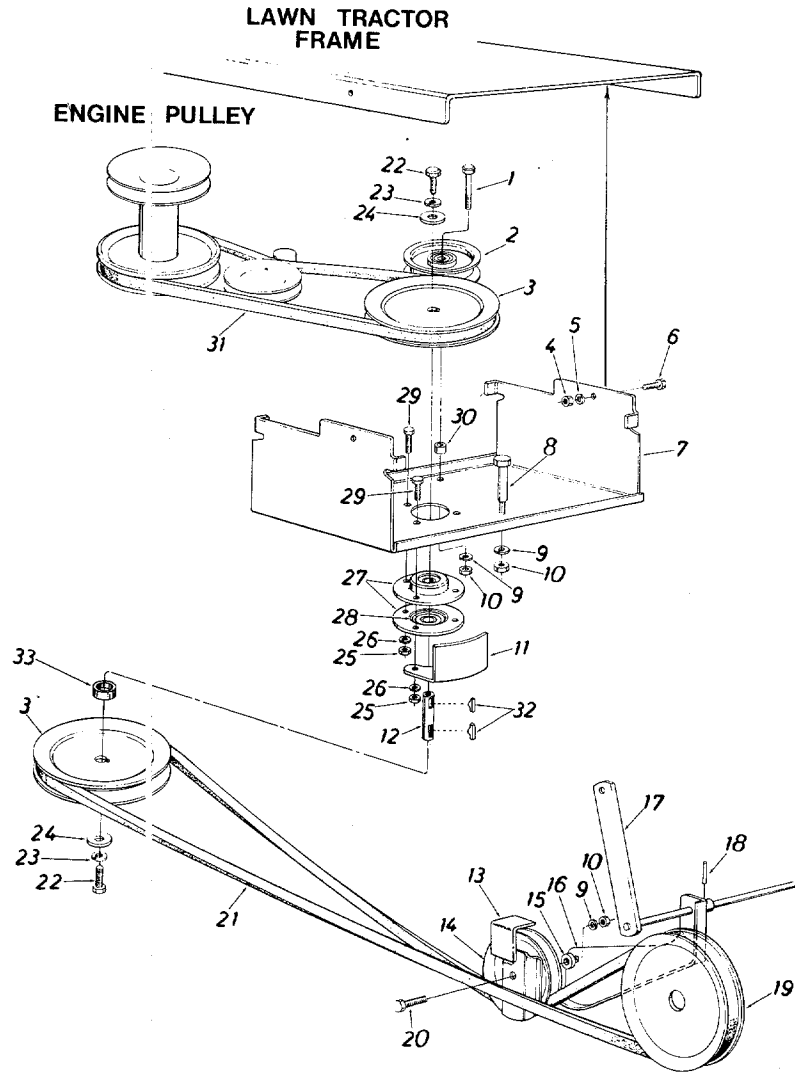
Lubricate with 20 oz. of Plasti-lube #0 Grease. Order Part No. 737-0133.

Model 746 and 19746

PARTS LIST FOR CHAIN CASE ASSEMBLY COMPLETE 884-0061

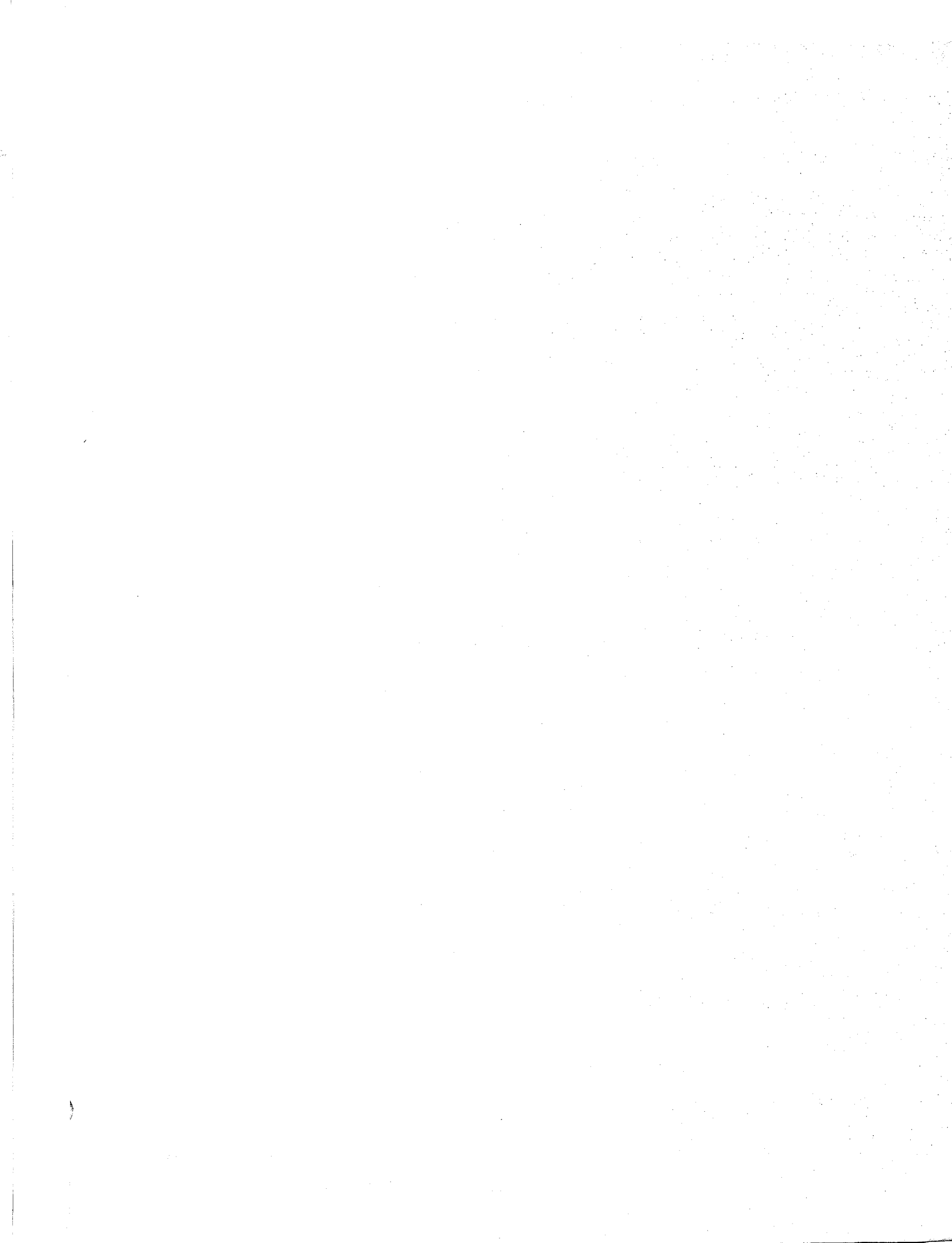
REF. NO.	PART NO.	DESCRIPTION	NEW PART	REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	05034	Bearing Housing 1-3/8" Dia.		32	737-0133	Grease - Plastilube #0 (Not Shown)	
2	710-0371	Hex Bolt 5/16-18 x .88" Lg. Spec.		33	737-0175	Vent Plug	
3	710-0442	Hex Bolt 5/16-18 x 1.50" Lg.*		34	738-0181	Jack Shaft .525" I.D. x 7.78" Lg.	
4	710-0564	Hex Bolt 1/4-20 x 2.75" Lg.*		35	738-0594	Sprocket Shaft .63" Dia. x 5.0" Lg.	
5	710-0599	Hex Wash. S-Tap. Scr. 1/4-20 x .50" Lg.		36	741-0155	Ball Brg. .62" I.D. x 1.38" O.D.	
6	710-0606	Hex Bolt 1/4-20 x 1.50" Lg.*		37	741-0417	Bearing Housing - 1-1/4"	N
7	710-0693	Hex Bolt 3/8-16 x 4.5" Lg.		38	748-0229	Hex Flange Brg.	
8	710-0778	Hex Wash. Hd. Bolt 1/4-20 x 1.5" Lg.		39	750-0563	Spacer 1.25" I.D. x 2.0" O.D.	N
9	710-0909	Hex Wash. TT-Tap Scr. 5/16-18 x 1.75" Lg.		40	750-0599	Spacer .28" I.D. x .62" O.D. x .90" Lg.	
10	712-0158	Hex Cent. L.-Nut 5/16-18 Thd.		41	750-0600	Spacer .38" I.D. x .62" O.D. x 3.44" Lg.	
11	712-0267	Hex Nut 5/16-18 Thd.*		42	750-0601	Spacer .62" I.D. x .88" O.D. x 1.56" Lg.	
12	712-0287	Hex Nut 1/4-20 Thd.*		43	750-0636	Spacer 1.25" I.D. x 1.62" O.D. x .50" Lg.	N
13	712-0798	Hex Nut 3/8-16 Thd.*		44	784-0055	Tiller Housing Plate Ass'y.-L.H.	
14	713-0131	#41 Chain 1/2" Pitch x 34 Links - Endless		45	784-0061	Tiller Housing Ass'y.	
15	713-0186	#42 Chain 1/2" Pitch x 48 Links - Endless		46	784-0067	Dust Cap .320" Dia. Hole	
16	713-0206	Sprocket 10 Tooth .500" Pitch		47	784-0077	Tiller Housing Ass'y.-R.H.	
17	713-0341	10 & 28 Teeth Sprocket Ass'y.		48	15727	Friction Disc Ass'y.	
18	713-0342	8-2 & 28 Sprocket Sleeve Ass'y.		49	710-0573	Hex Bolt 5/16-18 x 1.25" Lg. Grade 5	
19	713-0362	18-2 Sprocket Shaft Ass'y.	N	50	712-0331	Hex Jam Nut 1.0-14 x 28 Thd.	
20	713-0344	#50-2 Chain 5/8" Pitch x 28 Links - Endless		51	714-0133	Sq. Key 3/16 x 1.50" Lg.	
21	715-0114	Spring Pin Spir. 1/4" Dia. x 1.50" Lg.		52	736-0119	L.-Wash. 5/16" I.D.*	
22	717-0811	Spacer Block - Tiller Housing		53	736-0231	Fl.-Wash. .344" I.D. x 1.125" O.D.	
23	721-0192	Oil Seal Double Lip-1-1/4" Dia.		54	736-0352	Spring Bell Wash. 1.0" I.D. x 2.0" O.D.	
24	721-0132	Gasket for Tiller Housing		55	748-0273	Spacer .635" I.D. x .885" O.D.	
25	721-0133	Gasket for Brg.-Housing		56	748-0296	Floating Disc 3-1/4" O.D. x 1.0" I.D.	
26	736-0119	L.-Wash. 5/16" I.D.*		57	756-0439	5/8 V-Pulley 1.50" I.D. x 6.50"	
27	736-0187	Fl.-Wash. .640" I.D. x 1.24" O.D.		58	761-0189	Friction Pad 3-1/4" O.D. x 1-3/8" I.D.	
28	736-0217	L.-Wash. 3/8" I.D. Heavy Duty					
29	736-0231	Fl.-Wash. .344" I.D. x 1.125"					
30	736-0368	Special Washer					
31	736-0329	L.-Wash. 1/4" I.D.*					

Model 746 and 19746



PARTS LIST FOR MODEL 746 28" TILLER ATTACHMENT

REF. NO.	PART NO.	DESCRIPTION	NEW PART	REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	710-0427	Hex Bolt 3/8-16 x 2.00" Lg.*		18	715-0105	Spring Pin Roll 3/16" Dia. x 1.50" Lg.	
2	756-0405	Fl.-Idler w/Flanges 3-3/4" C.D.		19	756-0439	5/8" V-Pulley 1.50" I.D. x 6.50" O.D.	
3	756-0438	5/8" "V"-Pulley .790" I.D x .650" O.D.		20	710-0347	Hex Bolt 3/8-16 x 1.75" Lg.*	
4	712-0241	Hex Nut 3/8-24 Thd.*		21	754-0283	"V"-Belt 1/2" x 95.0" Lg.	
5	736-0217	L.-Wash. 3/8" I.D. Heavy Duty		22	710-0371	Hex Bolt 5/16-18 x .88" Lg. Spec.	
6	710-0696	Hex Bolt 3/8-24 x .88" Lg.*		23	736-0119	L.-Wash. 5/16" I.D.*	
7	784-0054	Carriage Bracket		24	736-0231	Fl.-Wash. .344" I.D. x 1.125" O.D. x .125	
8	738-0533	Shoulder Bolt .498" Dia. x 1.64		25	712-0267	Hex Nut 5/16-18 Thd.*	
9	736-0169	L.-Wash. 3/8" I.D.*		26	736-0119	L.-Wash. 5/16" I.D.*	
10	712-0798	Hex Nut 3/8-16 Thd.*		27	08253	Bearing Housing 1.85" I.D.	
11	05406	Belt Guard		28	741-0919	Ball Bearing .787" I.D. x 1.85" O.D.	
12	738-0593	Shaft .787" Dia. x 2.56" Lg.		29	710-0198	Hex Sems Bolt 5/16-18 x .75"	
13	784-0070	Belt Separator Plate		30	750-0497	Spacer	
14	756-0433	Fl.-Idler w/Flanges 3.25" O.D.		31	754-0229	Belt 1/2" Wide x 52" Long	
15	736-0235	Fl.-Wash. .406" I.D. x 1.25" O.D. x .164		32	714-0161	Hi-Pro Key 3/16" x 5/8"	
16	784-0071	Idler Bracket Ass'y.		33	750-0456	Spacer-.80" I.D. x 1.0" O.D.	
17	784-0073	Idler Brk't. Support Ass'y.					



MTD PRODUCTS INC YARD-MAN COMPANY

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