

SERVICE MANUAL

and

PARTS LIST

for

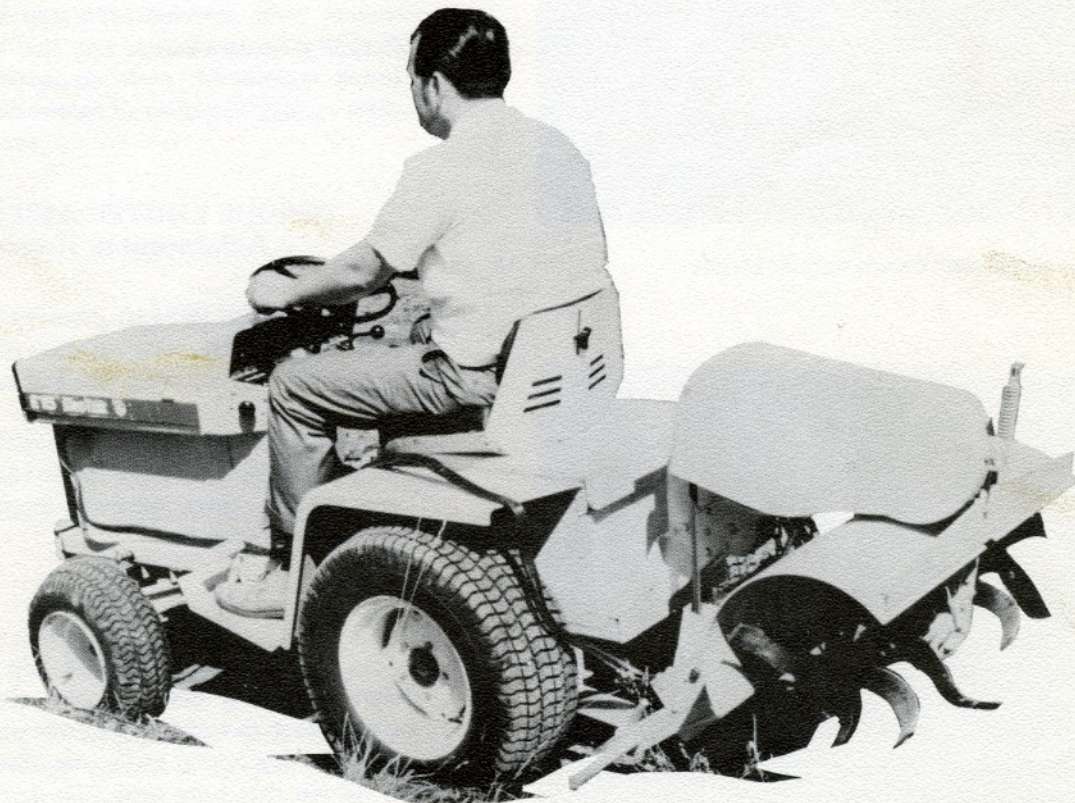
BRINLY

VV-100 Rototiller

and

VV-101 Tiller

Mounting Bracket



BRINLY-HARDY COMPANY, Inc.

340 E. Main Street, Louisville, Ky. 40202

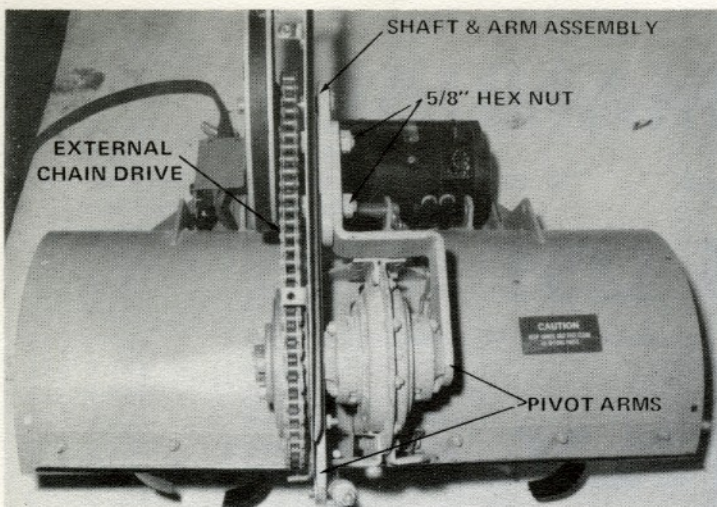


FIG. 1 - EXTERNAL CHAIN DRIVE

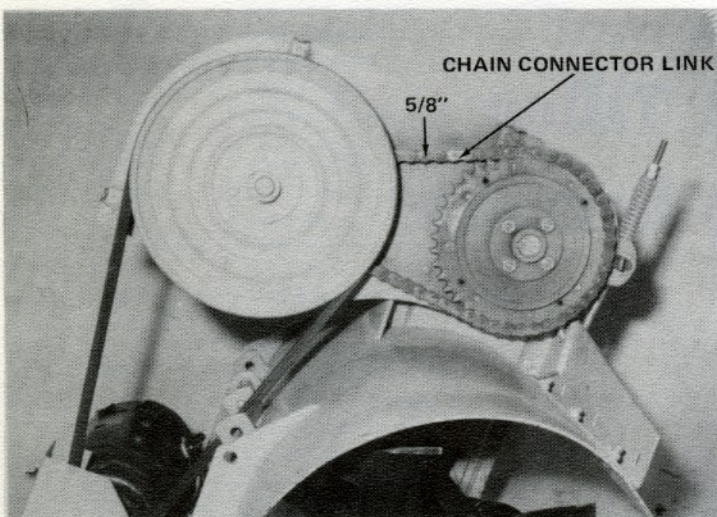


FIG. 2 - EXTERNAL CHAIN REPLACEMENT

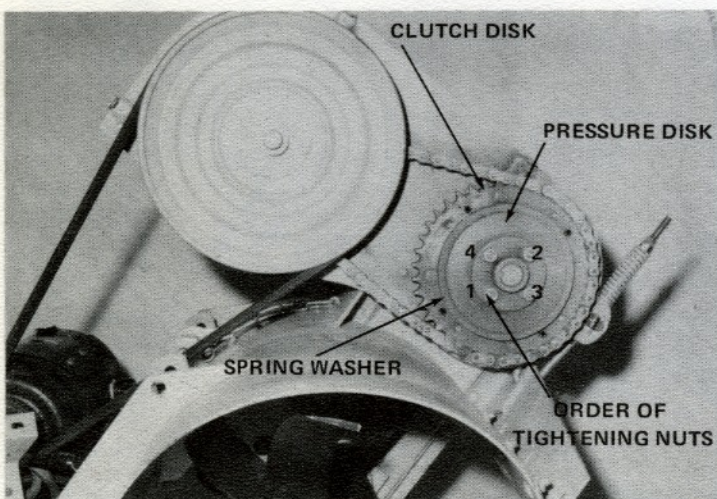


FIG. 3 - TORQUE LIMITER ADJUSTMENT

CAUTION

Before making any adjustments, make sure power cord is removed from the P.T.O. receptacle.

EXTERNAL CHAIN DRIVE Adjustment or Replacement

ADJUSTMENT Refer to Fig. 1 & Fig. 2

- A.) Place tiller in transport position.
- B.) Remove shield from external chain drive.
- C.) Loosen two 5/8 inch hex nuts slightly. Some pressure must remain to keep pivot arms from sliding downward while checking chain deflection.
- D.) Using a small pry bar, move shaft and arm assembly upward until slack is removed from chain.
- E.) Move tiller tines back and forth while removing remaining slack from chain. Chain is properly adjusted when five pounds pressure will deflect chain 5/8 inch.

REPLACEMENT Refer to Fig. 2.

- A.) Place tiller in transport position.
- B.) Remove shield from tiller and rotate tines by hand until chain connector link is easily accessible.
- C.) Disconnect chain connector link and remove chain. Inspect both sprockets for wear or broken teeth. Replace if necessary.
- D.) Install replacement parts in reverse order. Readjust chain as described above, if necessary.

TORQUE LIMITER ASSEMBLY Adjustment or Repair

ADJUSTMENT Refer to Fig. 3

- A.) Remove shield from external chain drive.
- B.) Loosen all four adjusting nuts and turn each till finger tight.
- C.) Tighten each nut 1/2 turn at a time, in the order shown. Tighten each nut a total of 1-1/2 turns. Tighten nuts in order shown, otherwise improper spring washer deflection will result.

CAUTION

Before tightening nuts, be sure clutch disks are centered over shoulder of Oilite bearing in sprocket. Visually center spring washer on pressure plate. Do not tighten nuts fully tight. This destroys the effect of the spring washer and the clutch will not slip. Over-tightening torque limiter nuts will prevent slipping when shock loads are encountered. This condition may cause premature part failures.

REPAIR Refer to Fig. 4

- A.) Remove shield from external chain drive.
- B.) Remove chain drive. (See external chain drive replacement Pg. 1—Fig. 2.)
- C.) Remove four nuts holding assembly to hub.
- D.) Replace defective parts.
- E.) Reassemble and adjust as described in Torque Limiter Adjustment (Pg. 1, Fig. 3).

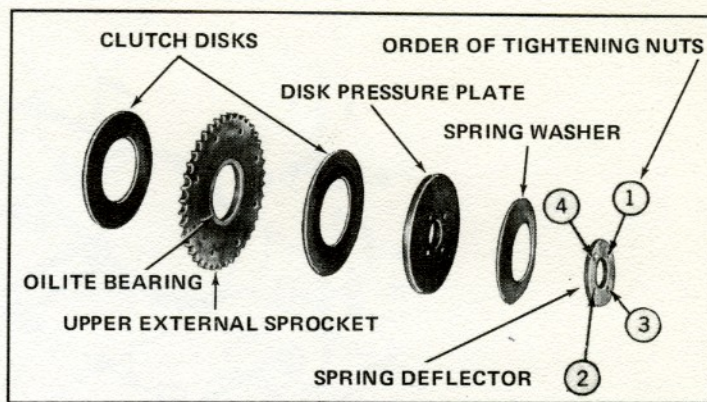


FIG. 4 – TORQUE LIMITER REPAIR

DRIVE BELT Adjustment or Replacement

ADJUSTMENT Refer to Fig. 5

Adjust spring tension by turning adjustment nut (at rear of tiller) until tension spring is compressed to a length of 3-3/4 inches. After adjustment is made, jam the two adjusting nuts together.

REPLACEMENT

- A.) Remove small belt shield at motor.
- B.) Remove old belt and replace. External chain shield need not be removed.
- C.) Reinstall belt shield and adjust spring tension as described above.

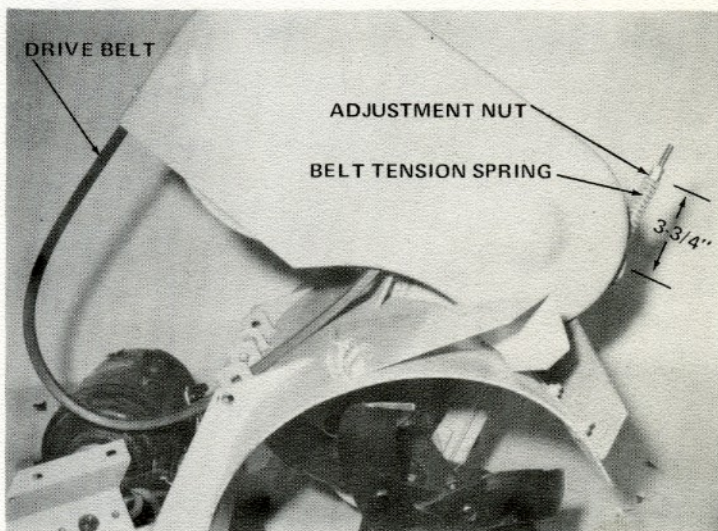


FIG. 5 – DRIVE BELT REPLACEMENT & ADJUSTMENT

INTERNAL CHAIN DRIVE

Refer to Fig. 6

This adjustment is required when excessive "backlash" occurs between the lower (tine) shaft and the upper shaft due to normal chain wear.

ADJUSTMENT

- A.) Place tiller in transport position.
- B.) Insert 5/32 Allen wrench through clearance hole in shroud gusset.
- C.) Turn adjusting screw clockwise while rotating tines back and forth by hand until no slack remains and a slight drag is felt on chain.
- D.) Loosen adjusting screw 1/2 turn or as necessary to allow tines to turn freely.
- E.) Stake threads or use a locking compound to lock set screw in place.

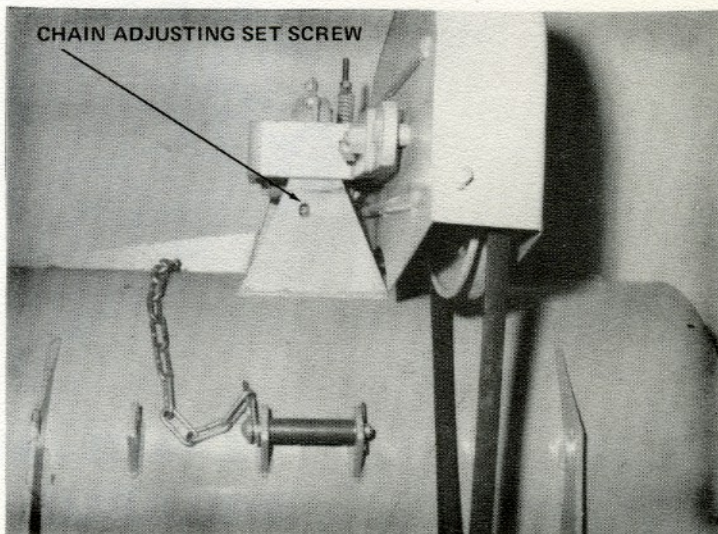
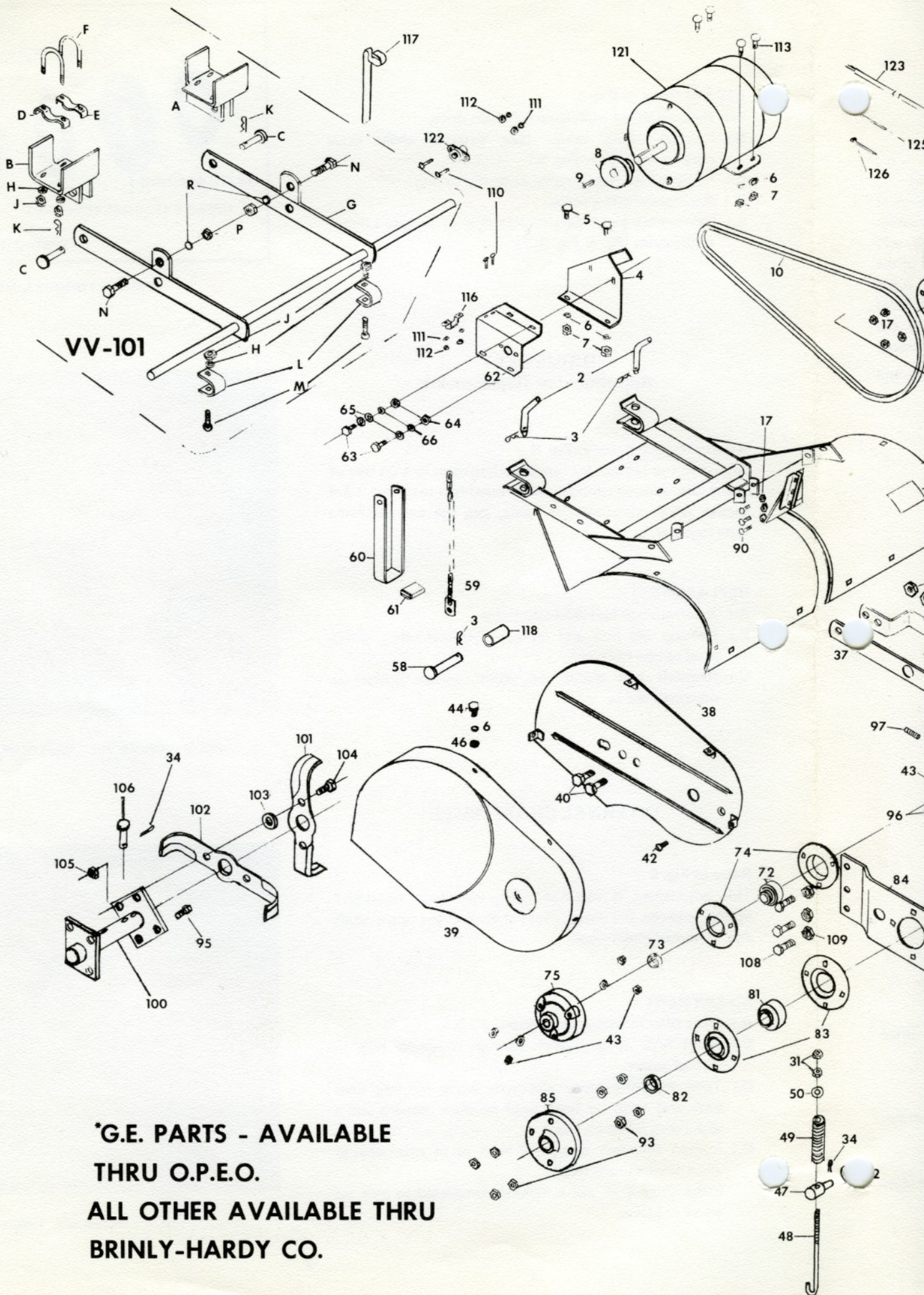


FIG. 6 – INTERNAL CHAIN ADJUSTMENT



***G.E. PARTS - AVAILABLE
THRU O.P.E.O.
ALL OTHER AVAILABLE THRU
BRINLY-HARDY CO.**

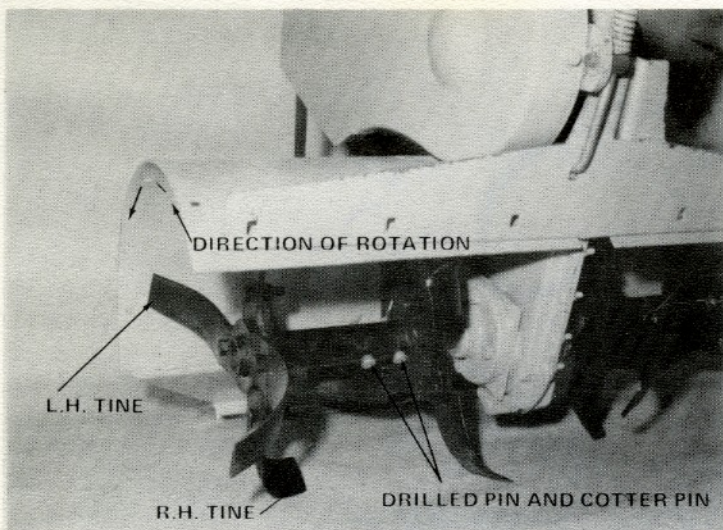


FIG. 7 – TINE REPLACEMENT

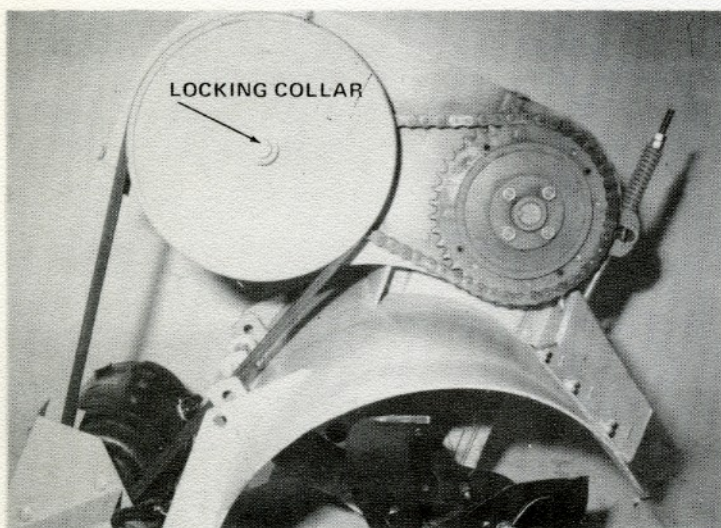


FIG. 8 – PULLEY & SPROCKET ASSEMBLY REPLACEMENT



FIG. 9

For rotating shafts, a slight twist of the collar in the direction of shaft rotation locks the bearing to the shaft. A set screw is provided which when tightened, maintains this locked position. Bearing is removed by loosening the set screw and turning the collar opposite to the direction of shaft rotation. For stationary shafts, reverse the above procedure.

TINE ASSEMBLIES

DETERMINING RIGHT- OR LEFT-HAND TINES

The cutting edge of each tine must face the direction of rotation. With the tine cutting edge facing in the direction of rotation, the direction of bend on each end will determine if it is a right- or left-hand tine. If bend is to the right, it is a right-hand tine. If the bend is to the left, it is a left-hand tine. Remember: Right-hand and left-hand reference is determined by standing at the rear of the tractor or tiller and facing the direction of forward travel.

Basic tiller tine assemblies are interchangeable for right- and left-hand installation.

TINE ASSEMBLY REPLACEMENT

Refer to Fig. 7

- A.) Remove cotter pins from drilled pins.
- B.) Remove pins from shaft.
- C.) Replace worn or bent tines.
- D.) Put heavy coat of grease on tine shaft and reinstall tine assemblies.

PULLEY & SPROCKET ASSEMBLY

REPLACEMENT Refer to Fig. 8 & Fig. 9

- A.) Remove shield from external chain drive.
- B.) Remove chain drive (See external chain drive replacement Pg. 1, Fig. 2).
- C.) Remove drive belt at large pulley only.
- D.) Remove locking collar as described in Fig. 9.
- E.) Replace defective parts and reassemble in reverse order.

Use straight edge to align belt drive and chain drive before tightening locking collar.

UPPER CHAIN CASE BEARINGS

REPLACEMENT OF UPPER LEFT HAND BEARINGS

Refer to Fig. 10 & Fig. 10A

- A.) Remove shield from external chain drive.
- B.) Remove external chain (Refer to Pg. 1, Fig. 2, Chain Replacement.)
- C.) Remove torque limiter assembly by removing cotter pin from shaft, loosening set screw, and sliding complete assembly from shaft. Remove square key.
- D.) Remove drive belt at large pulley only.
- E.) Remove nuts on two 5/8 inch hex bolts used to fasten pivot arms and shaft & arm assembly.
- F.) Disconnect drive belt tension spring at trunnion and remove inner shield with large pulley, and outer pivot arm attachment. (Large pulley need not be removed.)
- G.) Remove pivot hub secured by three hex nuts.
- H.) Remove locking collar as described in Fig. 9.
- I.) Remove outer bearing flange secured with three hex nuts. **Be careful to keep carriage bolts from dropping in the case.**
- J.) Remove bearing after making sure shaft is free of burrs and nicks.
- K.) Replace bearing and reassemble in reverse order.

REPLACEMENT OF UPPER RIGHT-HAND BEARINGS

Follow steps "G" thru "K" above.

LOWER CHAIN CASE BEARINGS

REPLACEMENT

- A.) Remove tine assemblies as described on Pg. 5, Fig. 7.
- B.) Remove 1/2 inch hex bolts and nuts fastening lower attaching plates to shroud.
- C.) Remove bearing guard cap secured by four 3/8 inch nuts.
- D.) Remove locking collar as described in Fig. 9.
- E.) Remove outer bearing flange, secured by four 3/8 inch hex nuts. **Be careful to keep carriage bolts from dropping in the case.**
- F.) Remove bearing after making sure shaft is free of burrs and nicks.
- G.) Replace bearing and reassemble in reverse order.

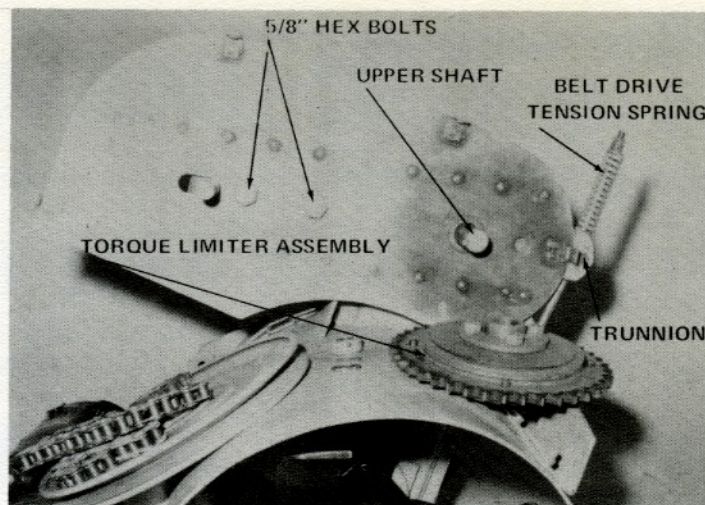


FIG. 10 - UPPER BEARING REPLACEMENT

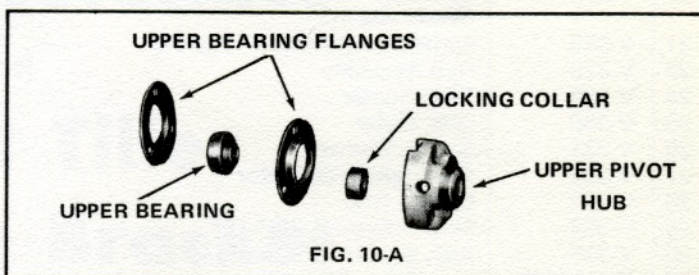


FIG. 10-A

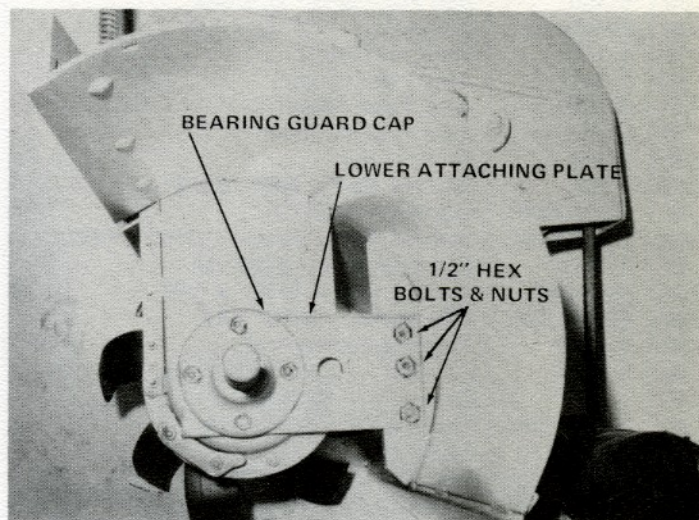


FIG. 11 - LOWER BEARING REPLACEMENT

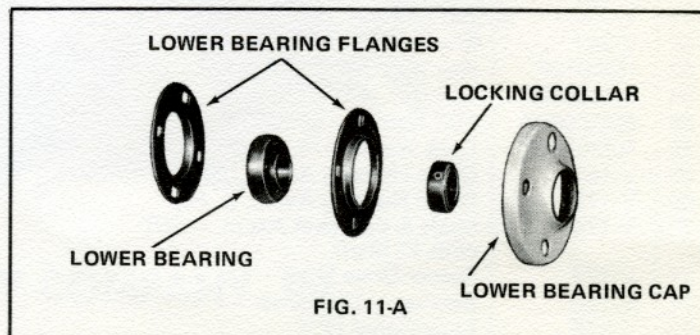


FIG. 11-A

PARTS LIST – VV-100 AND VV-101

Key	Part Number	Description
1	V-114	Shroud Assembly
2	B-1610P	Pin – Drilled – 5/8" D.
3	D-146P	Hair Pin Cotter – 1/8" D. x 1-7/8"
4	V-126	Shield; Belt-Motor
5	1M1016P	Hex. Hd. Bolt, 5/16" – 18 x 1"
6	40M1000P	Lockwasher – 5/16"
7	30M1000P	Hex Nut – 5/16" – 18
8	V-127	Pulley, Driver–w/Set Screw
9	V-158	Key – 3/16" Sq. x 1-1/4"
10	V-131	V Belt
11	V-132	Pulley & Sprocket Ass'm. (Mech. Assm.)
12	V-133	Pulley – 11"
13	V-134	Sprocket & Cup Ass'm.
14	V-137	Bearing – 3/4" Sealed
15	V-138	Washer, Reinforcing
16	2M0810P	Hex Bolt – 1/4"-20 x 5/8"
17	B-1673P	Hex Lock Nut – 1/4"-20
18	V-139	Lock Collar 3/4"
19	V-145	Roller Chain, ASA-50
20	V-322	Sprocket-Torque Limiter Assy. (Mech. Ass'm.)
21	V-323	Sprocket Assembly w/Bushing
23	V-326	Hub Assembly
24	V-329	Ring, Spacer
25	V-330	Disc, Outer
26	V-331	Spring, Washer
27	V-332	Ring, Spring Deflector
28	V-333	Clutch, Disc
29	V-334	Stud – Spec. – 3/8" D.
30	V-335	Key, Sq. (1/4" Sq. x 1-3/4")
31	30M1200P	Hex Nut – 3/8"-16
32	V-336	Set Screw – 5/16" x 1/4"
33	V-355	Roll Pin – 5/16" D. x 3/4"
34	50M0416P	Cotter Pin – 1/8" D. x 1.0"
35	V-146	Shaft-Arm Ass'y.
36	V-149	Arm, Pivot (Outer)
37	V-150	Arm, Pivot (Inner)
38	V-151	Shield Ass'm., Inner
39	V-154	Shield Outer
40	V-295	Hex Hd. Bolt – 5/8"-18 x 2"
41	32M2000P	Hex Nut – 5/8"-18
42	25M1016P	Flat Hd. Mach. Screw – 5/16" x 1.00"
43	B-1674P	Hex Lock Nut – 5/16"-18
44	1M1008P	Hex Hd. Bolt – 5/16" x 1/2"
46	45M1111P	Flat Washer – 5/16" SAE
47	V-155P	Trunnion-Spring Rod
48	V-156P	"J" Bolt
49	V-157P	Compression Spring
50	45M1313P	Flat Washer – 3/8" SAE
52	45M1717P	Flat Washer – 1/2" SAE
54	V-159	Shroud Brace Ass'm. W.A.
55	11M1012P	Carr. Bolt – 5/16"-18 x 3/4"
58	V-163P	Pin – Drilled – 1/2" D. x 4-1/4"
59	V-359P	Limit Chain Ass'm.
60	V-369	Lift Limiter
61	V-370	Pad – Vinyl
62	V-361	Bracket – Circuit Breaker
63	1M0812P	Hex Bolt 1/4"-2 x 3/4"
64	30M0800P	Hex Nut – 1/4"-20
65	45M0909P	Flat Washer – 1/4" SAE
66	40M0800P	Lock Washer 1/4"
68	V-167	Chain Housing Ass'm. (R.H.)
69	V-172	Chain Housing Ass'm. (L.H.)
70	V-174	Shaft & Sprocket Ass'm. – 10T with 1" Shaft
71	V-177	Spacer-Drive Shaft
72	V-178	Bearing – 1" Sealed
73	V-179	Lock-Collar (1")
74	V-180	Flangette Half – 1"
75	V-181	Hub, Pivot (For 1" Shaft)

Key	Part Number	Description
76	V-182	Chain, Roller (ASA 60)
77	V-183	Chain Tightener Ass'm.
78	V-186	Tine Shaft & Sprocket Ass'm.
79	V-190	Spacer, Tine Shaft (Long)
80	V-191	Spacer, Tine Shaft (Short)
81	V-192	Bearing – 1-1/4" Bore
82	V-193	Locking Collar – 1-1/4"
83	V-194	Flangette Half – 1-1/4"
84	V-195	Plate-Attaching (Lower)
85	V-196	Cap, Bearing Guard
86	V-197	Wear Bar
87	2M0832P	Hex Bolt – 1/4"-20 x 2.00"
88	13M0808P	Carriage Bolt (Short Sq. Neck) 1/4" x 1/2"
89	11M0816P	Carriage Bolt – 1/4" x 1"
90	10M0812P	Carriage Bolt – 1/4" x 3/4"
92	V-207	Carriage Bolt – Gr. 5 3/8"-16 x 1-1/2" Thd. To Hd.
93	B-1675P	Hex Lock Nut – 3/8"-16
94	V-199P	Carriage Bolt – 5/16" – 18 x 1-1/2"
95	2M1416P	Hex Bolt 7/16 x 1"
96	1M1032P	Hex Bolt – 5/16-18 x 2"
97	V-200	Hex Socket Set Screw 5/16"-18 x 1-1/2"
98	V-201	Cover, Oil Hole
100	V-376	Tine Attachment Ass'm.
101	M43480	Tine – R.H. – 1/4" x 13-1/2"
102	M43481	Tine – L.H. – 1/4" x 13-1/2"
103	B-723	Washer-Spec.
104	2M1424P	Hex Bolt – 7/16"-14 x 1-1/2"
105	B-1676	Hex Lock Nut – 7/16"-14
106	B-1345P	Pin-Tine Tub. Conn. – 1/2" D. x 2"
108	2M1632P	Hex Bolt – 1/2"-13 x 2"
109	B-1677P	Hex Lock Nut – 1/2"-13
110	V-128P	Pan Head Mach. Screw-Phillips Hd. 10-32 x 7/8"
111	V-130P	Lockwasher – #10
112	V-129P	Hex Nut – #10-32
113	11M1016P	Carriage Bolt – 5/16"-18 x 1.0"
116	V-362P	Cable Clamp
117	V-375	Clip-Power Cable
118	V-374	Tube-Roller
121*	163B9956P1	Motor-Tiller
122*	243A4606P1	Circuit Breaker
123*	243A4528G1	Cord Ass'm.
124*	243A530P1	Decal, Caution
125*	211A3556G3	Jumper Wire
126*	243A4540P2	Cable Tie

*GE PARTS – AVAILABLE THRU O.P.E.O.

ALL OTHER PARTS AVAILABLE THRU BRINLY-HARDY CO.

VV-101 TILLER MOUNTING BRACKET

Key	Part Number	Description
A	V-100	Axle Bracket, R.H.
B	V-101	Axle Bracket, L.H.
C	H200P	Drilled Rivet – 1/2" D. x 1-1/2
D	V-106	Spacer, Axle (Outer-Heavy)
E	V-107	Spacer, Axle (Inner-Light)
F	V-108P	"U" Bolt – 3/8" D.
G	V-109	Bail Ass'm.
H	40M1200P	Lock Washer – 3/8"
J	30M1200P	Hex Nut – 3/8"-16
K	D-146P	Hair Pin Cotter – 1/8" x 1-7/8"
L	V-105	Clevis-Positioning
M	10M1232P	Carriage Bolt – 3/8"-16 x 2"
N	1M1620P	Hex Bolt – 1/2"-13 x 1-1/4"
P	30M1600P	Hex Nut – 1/2"-13
R	40M1600P	Lock Washer – 1/2"