



ROTARY TILLER

**Operation, Service
& Parts Manual For
"AS" Series**

April 2002

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Date of Purchase: _____

Model Number: _____

Serial Number _____

PREPARATION

WARNING

To prevent possible personal injury or death during assembly, installation, operation, adjustment, or removal of implement, **DO NOT** wear loose clothing, always wear gloves and safety glasses or face shield. **Keep other persons a minimum of twenty-five (25) feet away from any unit under power.**



READ THIS BEFORE OPERATING TILLER

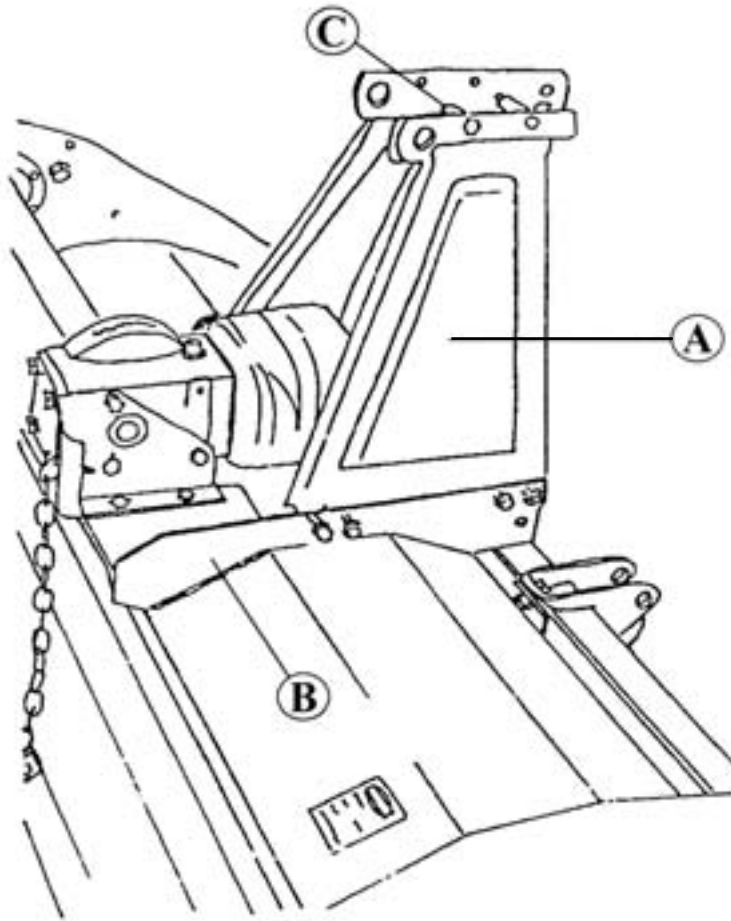
TRAINING

Know your controls. Read this operator's manual and the manual provided with your tractor. Learn how to stop the tractor engine and tiller quickly, in case of an emergency. **DO NOT** allow children to operate machine, or adults to operate it without proper instructions.

PREPARATION

- Clear area of debris.
- Never permit any person other than the operator to ride on board the tractor at any time.
- **DO NOT** allow riders on tiller at any time.
- Operate only in daylight or good artificial light.
- Ensure all safety shielding is properly installed.
- **Always** wear relatively tight and belted clothing when operating tiller. Loose clothing should not be worn, as it could get caught in the moving parts or controls.

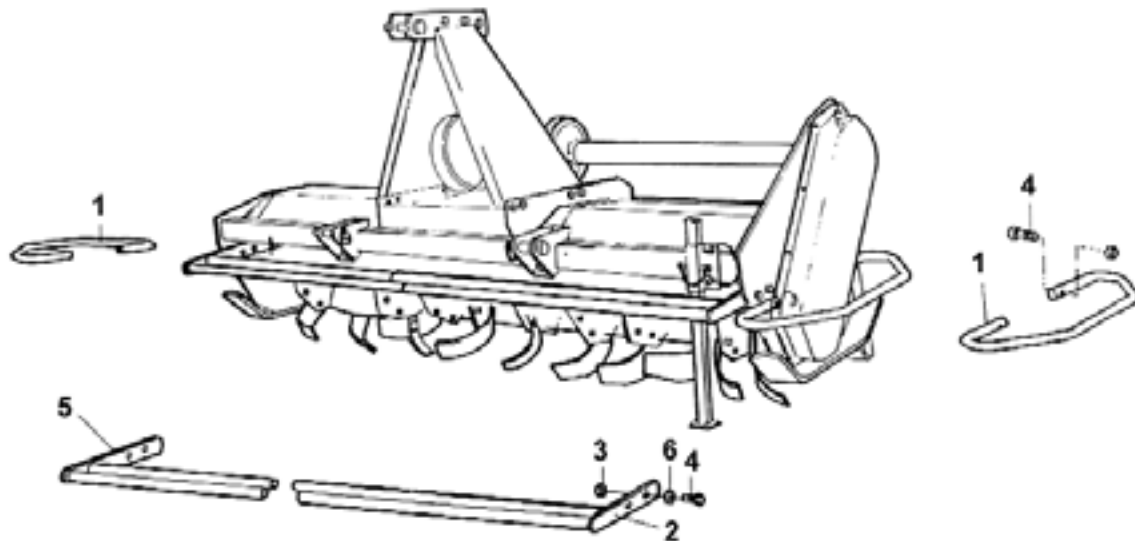
ASSEMBLY INSTRUCTIONS



1. With tiller on bottom pallet, install a-frame mast (Ref. A).
Note: The mast mounts on the outside of the rails (Ref. B).
2. Install spacer (Ref. C) between the two a-frame masts using supplied bolt and nut.
3. Tighten all bolts and nuts.
4. Install PTO driveline to tiller gearbox. *Note:* The shear bolt clutch assembly goes to the tiller gearbox.
5. Check oil in gearbox.
6. Check grease in chain case.

FRONT & SIDE SAFETY RAILS

FOR AS, G & L TILLERS



<u>REF. #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	76.90.0001	Side Safety Rod
2	1	76.90.0012	LH Front Safety Rod
3	8	80.Z.11.012	Nut
4	8	80.Z.03.137	Bolt TE8.8 M10 x 30
5	1	76.90.0011	RH Front Safety Rod
6	8	80.S.22.010	Flat Washer 10.5
	1	65.15.0011	Complete Safety Kit

CONNECTION TO TRACTOR

Your Gearmore Rotary Tiller can be attached to tractors having a 3-point hitch with category “I” length arms and category “I” hitch balls.

1. Attach the lower link arms of the tractor to the lower attaching pins of the tiller.

NOTE: Hitch brackets can be adjusted for offset. Loosen hitch brackets and rear strap and slide gearbox assembly left or right for offset. Check PTO length and clearance, then re-tighten bolts.

2. Attach the top link of the 3-point hitch to the tiller. Next, tighten the lower link arm check chains to prevent any horizontal movement of the tiller, which could cause damage during operation. Adjust the unit so the drive shaft is parallel to the ground in the working position. Adjust the tractor lift linkage or the hydraulic lever lifting stops to prevent the tiller being lifted more than 6” from the ground. This will avoid any damage to the universal joints.
3. Attach the drive shaft, first to the tiller input shaft and then to the PTO of the tractor. Make sure the yokes are locked on to the tractor and tiller shaft.

SHEAR PIN DRIVESHAFT:

Your tiller has a driveshaft with a shear bolt, it has been calibrated for a certain overload. Should the bolt shear, due to meeting resistance, replace it with a new one of the same specification.

SET SIDE SKIDS FOR WORKING DEPTH:

To regulate working depth, loosen the nuts of the skids and adjust them to the desired position. Set skids equally on both sides. (See Picture)



TRANSMISSION CHAIN TENSION:

Your Gearmore Rotary Tiller has an automatic chain tensioner, so no adjustment is necessary.

TINES:

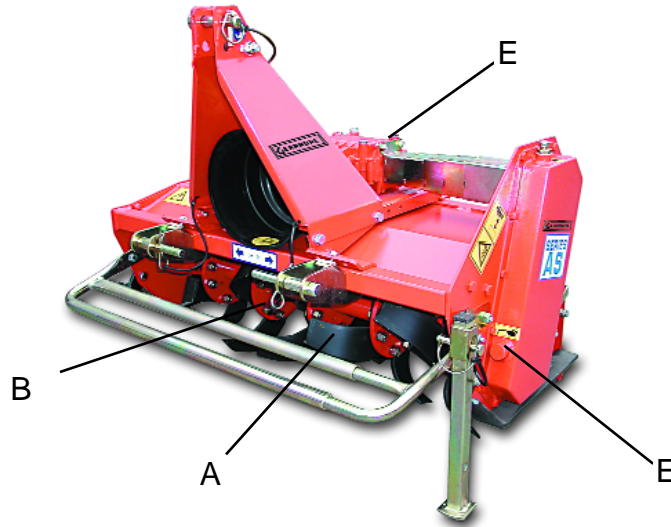
When the complete set of tines has to be replaced, it is advisable to replace one at a time to insure that the new tines are mounted in the same position as the old ones.

It is important to fit the bolts with the heads to the side of the tine and the nuts and washers to the side of the flange. It is also recommended to replace all washers with new ones at the time of tine replacement.

TAILBOARD:

To allow tailboard to float, unlock rear tailboard stop. This allows the tailboard to float and not drag dirt. When parking tiller, lock the tailboard to prevent the tiller from rolling back.

GENERAL MAINTENANCE



Carefully follow all instructions as stated in this operator's manual, this includes safety, assembly, operation, lubrication and maintenance of the tiller.

1. Check bolts and nuts for tightness (Ref. A).
2. Check tiller daily for loose, worn or broken tines (Ref. B).
3. Replace, **immediately**, any damaged or worn parts.
4. Check lubrication - *See Lubrication Section.*

LUBRICATION

GEARBOX: Fill gearbox to level plug (Ref. E) with gear oil. Use SAE#140 multi-gear lubricant or equivalent. Gear oil should be checked weekly and changed *every 400 hours* of use.

CHAIN CASE: Chain case should be filled to level plug (Ref. E) with grease. Change grease *every 400 hours.*

ROTORSHAFT: No lubrication required.

DRIVESHAFT: Grease both cross and bearing and shear bolt yoke (not shown). After that grease *every 8 hours* of use. It is also necessary, from time to time, to untelescope the driveshaft to clean and re-grease tubing.



WARNING: DO NOT OPERATE TILLER UNLESS ALL SHIELDS ARE IN PLACE

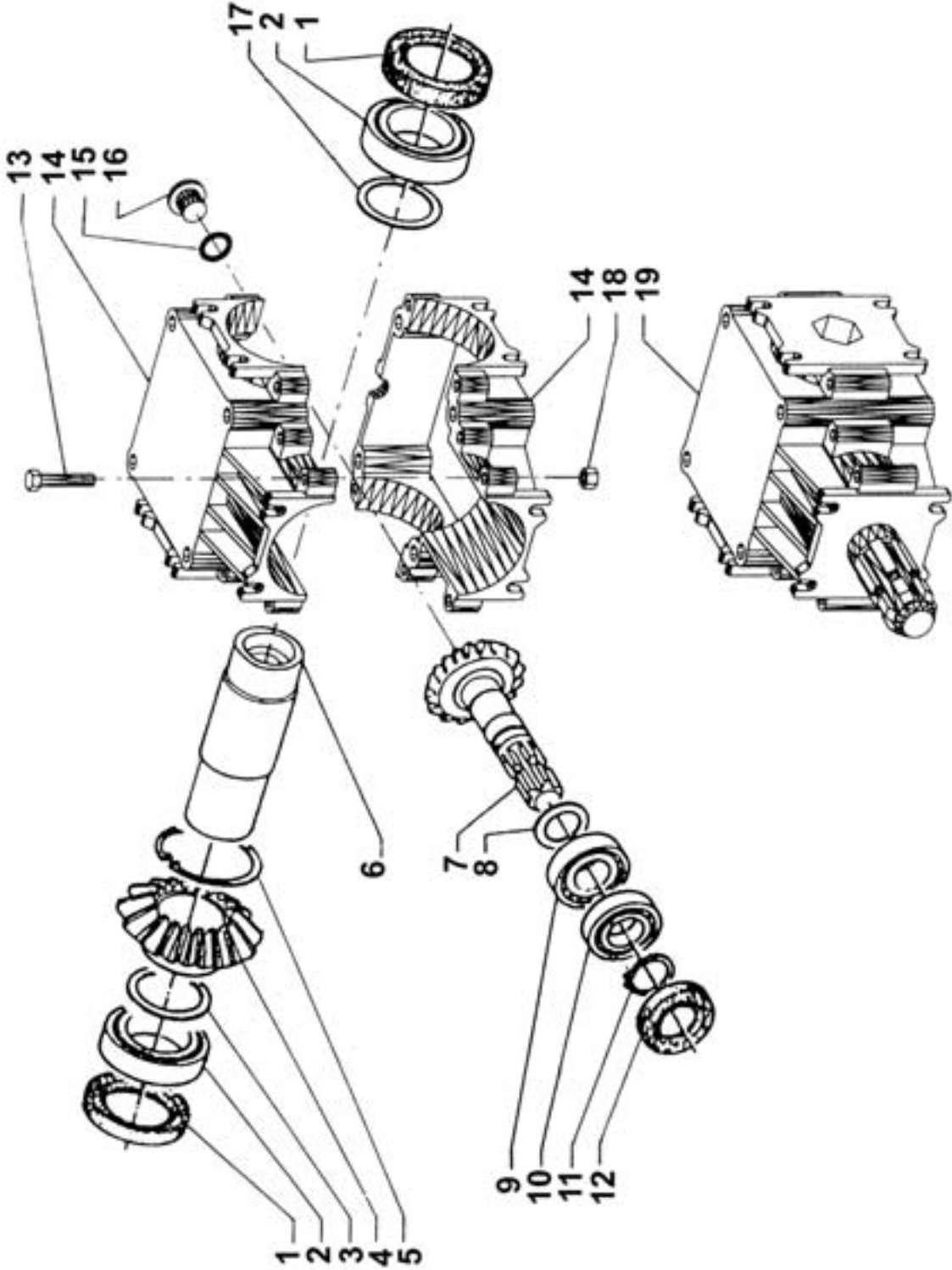
SAFETY INFORMATION

- Guards and safety shields are for your protection. **DO NOT** operate equipment unless they are in place.
- Always** operate tractor PTO (power take-off) at recommended RPM (revolutions per minute).
- Disengage tractor PTO and shift into neutral before attempting to start engine.
- Read and observe all safety decals on the tractor and tiller.
- NEVER** allow anyone within 25' of machine while it is in operation.
- Do not** stop or start suddenly when going uphill or downhill. Avoid operation on steep slopes.
- Be alert for holes in terrain and other hidden hazards. Always drive slowly over rough ground.
- Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Be careful when changing direction on slopes.
- STOP** tiller and tractor **immediately** upon striking an obstruction. Turn off engine, inspect tiller, and repair any damage before resuming operation.
- Disengage power to tiller and stop engine before dismounting from tractor, before making any repairs or adjustments, transporting, or unclogging tiller.
- Take all possible precautions when leaving tractor unattended: Disengage PTO, lower tiller, shift into neutral, set parking brake, stop engine and remove key from ignition.
- Front tractor weights or front tire ballast should be used to enhance front end stability on small tractors.
- Check to make sure PTO is properly connected and that the driveline is correct to prevent bottoming out or pulling apart during the full lift range of the hitch.
- Never** work under tiller without safety blocks.
- This implement is designed for a one-man operation. It is the responsibility of the tractor operator to see that no one is in the proximity of the implement when it is started. **DO NOT** operate the implement with another person within 25' of the implement or

TROUBLESHOOTING CHART

PROBLEM:	CAUSE:	SOLUTION:
Excessive vibration	Driveshaft damaged	Replace worn driveshaft
	Tines broken off	Replace damaged tines
	Bent rotorshaft	Replace rotorshaft
Rotorshaft does not turn	Shear bolt broken	Replace shear bolt
	Transmission chain broken	Replace chain
Tilling deeper on one side	Tractor lower lift arm out of adjustment	Adjust lift arm
	Tiller depth skid not properly adjusted	Adjust skids to level depth
Tiller bouncing	Trying to go too deep on first pass	Raise tiller so tilling 3" deep
	Tractor in too high a gear	Tiller runs smoother in first or second gear
Leaving tire tracks	Tires set out too wide	Set in tractor tires
	Tractor too large	Offset tiller to cover right tire tracks
PTO will not telescope	Improper lubrication	Separate and grease both halves
	PTO twisted	Replace twisted parts
	Shields damaged	Replace shields

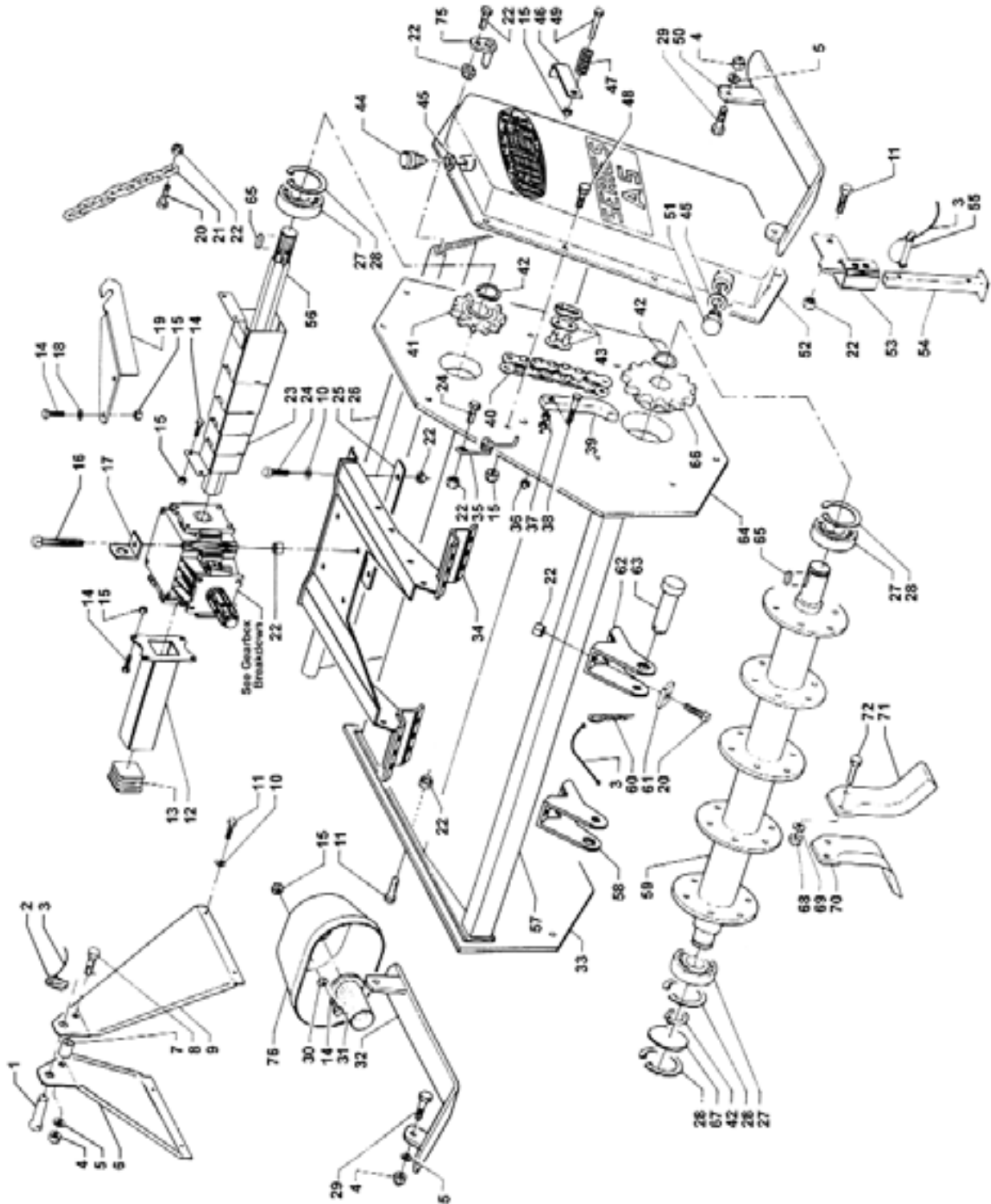
GEARBOX ASSEMBLY



GEARBOX ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	40X62X10	Oil Seal 40 - 62 - 10
2	2	6208	Bearing 40 - 80 - 18
3	1	78.28.0004	Spacer 40 - 60 - 1
4	1	72.46.0013	Ring Gear Z-19 RV - 022
5	1	47155	Circlip E-55
6	1	72.07.0005	Hex Tube 30 RV - 022
7	1	76.75.0043	Input Shaft Z - 13 RV - 022
8	3	80.S.45.266	Spacer 35 - 45 - 0.5
9	1	6307	Bearing 35 - 80 - 21
10	1	6207	Bearing 35 - 72 - 17
11	1	47135	Circlip E-35
12	1	35X52X7	Oil Seal 35 - 52 - 7
13	8	80.Z.13.083	Bolt M8 x 45
14	2	78.04.0020	Upper Housing G.B. RV - 022
15	1	OR153	O-ring 15.47 x 3.53
16	1	80.F.90.552	Plug 3/8"
17	1	80.S.45.297	Spacer 40 - 50 - 1
18	8	80.Z.09.508	Nut M8
19	1	72.41.0023	Complete Gearbox RV - 022

TILLER ASSEMBLY



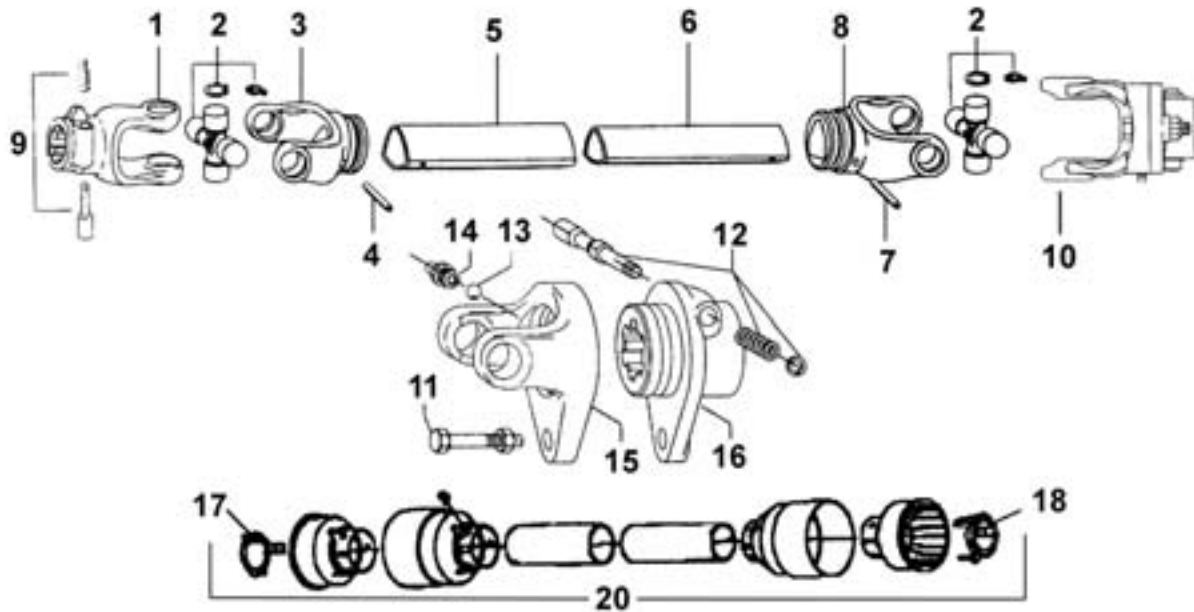
TILLER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	76.65.0014	Top Link Pin
2	1	80.S.77.015	Lynch Pin D.10 x 58
3	4	80.P.05.001	Tie
4	5	80.Z.11.015	Locknut M12
5	5	80.Z.30.012	Washer 13 - 24 - 2.5
6	1	73.68.0018	3-Pt. Mast RH
7	1	72.80.0014	Spacer Top Link
8	1	80.Z.01.094	Bolt M12 x 80
9	1	73.68.0019	3-Pt. Mast LH
10	10	80.Z.30.010	Washer 10.5 - 21 - 2
11	20	80.Z.03.134	Bolt M10 x 20
12	1	76.90.0030	Shaft Guard AS90
12	1	76.90.0031	Shaft Guard AS100
12	1	76.90.0032	Shaft Guard AS120
13	1	80.P.15.250	Plug
14	12	80.Z.03.110	Bolt M8 x 20
15	24	80.Z.11.009	Locknut M8
16	4	80.Z.01.080	Bolt M10 x 120
17	1	74.14.0005	Lift Clip
18	7	80.Z.30.0008	Washer 8.4 - 17 - 1.6
19	1	78.44.0058	Chain Bracket
20	5	80.Z.03.138	Bolt M10 x 35
21	1	72.20.0004	Chain Tailboard
22	32	80.Z.11.012	Locknut M10
23	1	76.90.0035	Shaft Guard
24	5	80.Z.03.136	Bolt M10 x 25
25	1	76.71.0154	Strap
26	1	72.30.0001	Tailboard G90
26	1	72.30.0002	Tailboard G100
26	1	72.30.0003	Tailboard G120
27	3	6306-2RS1	Bearing
28	4	47272	Circlip I-72
29	4	80.Z.03.159	Bolt M12 x 30
30	2	80.Z.31.108	Washer 9 - 32 - 2
31	1	80.P.09.001	PTO Shaft Cover
32	1	78.16.0001	RH Skid
33	1	73.68.0031	Side Plate RH
34	1	78.60.0160	3-Pt. G.B. Mount
35	1	75.85.0001	Spring Chain Tensioner
36	1	80.Z.11.017	Locknut M14
37	2	80.S.03.011	Nut M14
38	1	80.Z.03.188	Bolt M14 x 60

TILLER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
39	1	78.63.0001	Chain Tensioner
40	1	80.A.31.624	ASA-60 HE 46 Links Chain Assy. with Master
41	1	76.75.0041	Z-12 3/4" Sprocket
42	3	47130	Circlip E-30
43	1	80.A.31.910	ASA - 60 HE Master Link
44	1	80.F.90.116	Vent Plug 1/2"
45	2	80.S.38.232	Gasket 1/2" 21.5 - 27 - 1.5
46	1	73.58.0011	Tailboard Stop
47	1	75.85.0022	Spring
48	14	80.Z.03.108	Bolt M8 x 16
49	1	80.Z.01.046	Bolt M8 x 40
50	1	78.16.0002	LH Skid
51	1	80.F.90.553	Drain Plug 1/2"
52	1	72.14.0001	Chain Case AS
53	1	78.44.0056	Bracket Jackstand
54	1	76.74.0003	Jackstand
55	1	80.S.77.021	Lynch Pin D.10 x 70
56	1	71.12.0091	Transmission Shaft AS90
56	1	71.12.0092	Transmission Shaft AS100
56	1	71.12.0093	Transmission Shaft AS120
57	1	78.60.0192	Frame AS90
57	1	78.60.0193	Frame AS100
57	1	78.60.0194	Frame AS120
58	1	71.46.0007	2-Pt. Hitch RH
59	1	77.85.0090	Rotor AS90
59	1	77.85.0091	Rotor AS100
59	1	77.85.0092	Rotor AS120
60	2	80.Z.75.505	Hair Clip 4 x 80
61	4	76.69.0005	Plate 2-Pt. Hitch
62	1	71.46.0008	2-Pt. Hitch LH
63	2	76.65.0013	Lift Pin Cat. 0/1 D.15/22
64	1	73.68.0030	Side Plate LH
65	2	80.S.65.150	Key 10 x 8 x 30
66	1	76.75.0042	Sprocket Z-19 3/4"
67	1	72.44.0008	AS Cover Rotor
68	As Req'd	80.Z.08.110	Nut m12 x 1.25
69	As Req'd	80.S.35.112	Washer 12.2 - 21.1 - 3.2
70	As Req'd	79.66.0001	Tine RH
71	As Req'd	79.66.0002	Tine LH
72	As Req'd	80.Z.00.022	Bolt M12 x 1.25 x 35
75	2	76.65.0024	Tailboard Pin
76	1	72.48.0002	PTO Cover

PTO DRIVELINE ASSEMBLY 80.A.10.211



REF#	QTY.	PART NO.	DESCRIPTION
1	1	572020351	Yoke, 1-3/8" 6-Spline RS
2	2	41202R	Cross Journal Kit #2
3	1	204026851	Yoke, Outer Drive Tube
4	1	341048000R10	Roll Pin O.T.
5	1	225050635	Outer Drive Tube
6	1	225040635	Inner Drive Tube
7	1	341036000R10	Roll Pin I.T.
8	1	204026852	Yoke, Inner Drive Tube
9	1	403000001	Push Pin Kit
10	1	606202001R	Clutch Assembly SB4
11	1	80.R.01.028	Bolt M6 x 45
12	1	401000001	Push Pin Kit
13	1	362004000	Steel Ball
14	1	348006000	Grease Zerk
15	1	213020020	Flange, Yoke
16	1	513060312	Hub 1-3/8" 6- Spline
17	1	255020005	Bearing, Outer Shield
18	1	255020006	Bearing, Inner Shield
19	2	252000001	Safety Chain (not shown)
20	1	5F02076FF	Complete Shield
21	1	80.A.10.211	Complete Driveline Shear Pin

LIMITED WARRANTY



GEARMORE, INC., warrants each new Gearmore product to be free from defects in material and workmanship for a period of twelve (12) months from date of purchase to the original purchaser. This warranty shall not apply to implements or parts that have been subject to misuse, negligence, accident, or that have been altered in any way.

Our obligation shall be limited to repairing or replacement of any part, provided that such part is returned within thirty (30) days from date of failure to Gearmore through the dealer from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature, direct, consequential or contingent, to person or property. This warranty does not extend to loss of crops, loss because of delay in harvesting or any other expenses, for any other reasons.

Gearmore in no way warrants engines, tires, or other trade accessories, since these items are warranted separately by these respective manufacturers.

Gearmore reserves the right to make improvements in design or changes in specification at any time, without incurring any obligations to owners or units previously sold.

GEARMORE, INC.
13477 Benson Ave.
Chino, CA 91710

Always refer to and heed machine operating warning decals on machine.

The serial number of this product is stored in our computer database, thus submitting a warranty registration card is not required.