

# **HD SERIES**

## **ROTARY CUTTER OWNERS MANUAL**

**SCL560-HD**

**SCL660-HD**

**SCL760-HD**

## SAFETY PRECAUTIONS

DUE TO THE TYPE OF PERFORMANCE FOR WHICH THIS MACHINE WAS DESIGNED, THE OPERATOR SHOULD BE VERY CAREFUL AND PRACTICE ALL SAFETY PRECAUTIONS DURING OPERATION. BEING OF BASIC DESIGN THROUGHOUT THE FARM EQUIPMENT INDUSTRY, ROTARY CUTTERS HAVE FAST MOVING BLADES THAT CAN THROW OBJECTS THAT THE OPERATOR RUNS OVER. IT IS POSSIBLE TO DO SERIOUS INJURY TO YOURSELF OR TO OTHERS, IF YOU FAIL TO READ AND PRACTICE THE FOREGOING SAFETY RULES. ONLY EXPERIENCED AND TRAINED OPERATORS WITH A THOROUGH UNDERSTANDING OF THE RESPONSIBILITIES AND LIMITATIONS OF THIS MACHINE SHOULD OPERATE IT.

1. IMPORTANT READ AND BECOME FAMILIER WITH THE INSTRUCTIONS ON THE ROTARY CUTTER DECALS, THESE DECALS HAVE BEEN PLACED AT VARIOUS PLACES ON THE MACHINE TO REMIND YOU TO BE CAUTIOUS FOR YOUR PROTECTION, AS WELL AS OTHERS.
2. BEFORE OPERATING THE ROTARY CUTTER, CAREFULLY INSPECT THE AREA ON WHICH THE ROTARY CUTTER WILL BE USED. BE SURE TO REMOVE ALL OBJECTS THAT MIGHT BE THROWN BY THE ROTATING BLADES. ALSO, NOTE ANY GULLIES, DITCHES, OR ROUGH TERRAIN WHEN YOU ARE INSPECTING THE AREA.
3. CHECK THE MACHINE FREQUENTLY TO BE SURE THERE ARE NO LOOSE BOLTS, AND THAT SNAP RINGS ARE IN PLACE.
4. ALWAYS USE, AND MAINTAIN IN PLACE, ALL PTO GUARDS FURNISHED WITH THE ROTARY CUTTER, AS WELL AS THE GUARDS FURNISHED WITH THE TRACTOR.
5. DISENGAGE THE PTO, AND CUT OFF THE TRACTOR ENGINE BEFORE LEAVING THE TRACTOR.
6. IT IS RECOMMENDED THAT THE TRACTOR BE EQUIPPED WITH A ROLL-BAR, AND A SEAT BELT. THIS IS THE OPERATOR'S OWN RESPONSIBILITY FOR HIS SAFETY.
7. IT IS NOTED THAT ON TRACTORS WITHOUT "LIVE" PTO, THE CENTRIFUGAL FORCE OF THE ROTATING BLADES WILL TEND TO FORCE THE TRACTOR IN THE DIRECTION OF TRAVEL. THIS CAN RESULT IN AN ACCIDENT, OR INJURY, IF THE OPERATOR DOES NOT REDUCE HIS SPEED BEFORE TURNING, OR ALLOWING ADEQUATE DISTANCE BETWEEN THE TRACTOR AND TURNING POINT, OR OBSTACLE. (YOUR DEALER HAS FREE-WHEEL OVER-RUNNING COUPLERS, TO CURTAIL THE CENTRIFUGAL FORCE, THE COUPLERS SERVE AS AN ADDED SAFETY DEVICE).
8. THE BLADES, AND PTO SHAFT WILL CONTINUE TO ROTATE FOR A SHORT TIME AFTER THE TRACTOR PTO POWER IS CUT OFF. BE SURE ALL ROTATION HAS STOPPED BEFORE ATTEMPTING TO SERVICE THE MACHINE, OR APPROACH IT FOR ANY REASON.
9. NEVER CRAWL UNDER THE MACHINE FOR ANY REASON. IT COULD FALL ON YOU! NEVER MANUALLY FEED THE MACHINE FOR ANY REASON. NEVER REACH YOUR HANDS, OR FEET UNDER THE DECK OF THE CUTTER, WITHOUT FIRST BEING SURE THAT THE BLADES HAVE CEASED ALL MOVEMENT, AND ALL POWER IS CUT OFF.
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11. NEVER ALLOW RIDERS ON MACHINE OR TRACTOR!
12. TRANSPORT MACHINE AT SAFE SPEED.

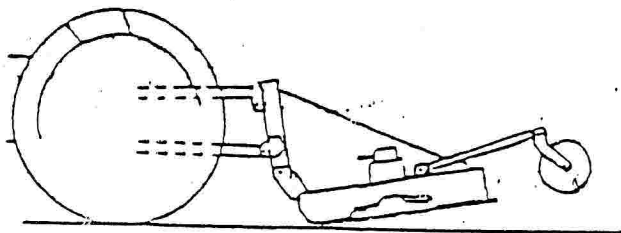
## OPERATION

THE BIG BEE ROTARY CUTTERS ARE DESIGNED FOR TRACTORS RANGING FROM 16 HP. BE SURE TO MATCH THE SIZE AND MODEL OF CUTTER TO YOUR TRACTOR FOR SAFETY AND RELIABILITY.

1. CHECK GEAR BOX FOR LUBRICANT.
2. CHECK ALL LUBRICATION POINTS ON PTO SHAFT AND TAIL WHEEL.
3. BE SURE ALL BOLTS ARE TIGHT AND SNAP RINGS ARE IN PLACE.
4. BE SURE THE ROTARY CUTTER IS PROPERLY MOUNTED ON TRACTOR.
5. ADJUST AND LEVEL ROTARY CUTTER FOR DESIRED CUTTING HEIGHT.

### ADJUSTING LEVEL OF CUTTER ON YOUR TRACTOR

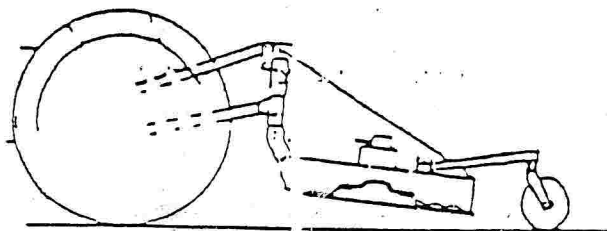
Cutter Too Low In Front



INCORRECT

BLADE TOO HIGH ON SIDES CAUSING SKIPPING AND UNEVEN CUTTING, BLADES BECOME BADLY WORN. BLADE STRIKING GROUND CAUSING SLIP CLUTCH TO SLIP EXCESSIVELY.

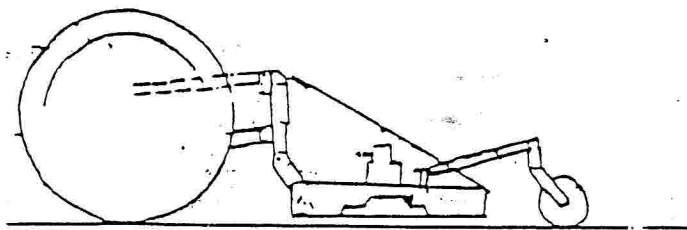
Cutter Too Low In Rear



INCORRECT

EXCESSIVE WEAR AND TEAR ON ON TAILWHEEL, REAR SKIRT DRAGGING CAUSING BALLING UP PROBLEMS. BLADE TOO HIGH ON SIDES CAUSING SKIPPING AND UNEVEN CUTTING

Cutter Level



CORRECT

BLADE CUTTING EVENLY WITH GRASS BEING SPREAD EVENLY.

## STARTING FOR THE FIRST TIME

1. IF EVERYTHING IS IN PLACE, AND THE ROTARY CUTTER IS PROPERLY CONNECTED TO THE TRACTOR, START THE TRACTOR, AND RAISE THE ROTARY CUTTER SLOWLY, WATCHING THE PTO SHAFT, RAISE AND LOWER THE ROTARY CUTTER UNTIL YOU HAVE POSITIONED THE PTO SHAFT TO THE SHORTEST TELESCOPING POINT. THIS POSITION WILL CHECK THE PTO SHAFT TO MAKE IT IS NOT TOO LONG. WITH THE SHAFT POSITIONED AT IT'S SHORTEST LENGTH, THE TWO TELESCOPING SHAFTS SHOULD LACK TWO(2) INCHES MEETING. NOW, CHECK THE PTO SHAFT TO BE SURE THE PTO SHAFT IS NOT TOO SHORT. POSITION THE ROTARY CUTTER SO THAT THE PTO SHAFT WILL BE AT IT'S LONGEST POSITION. AT THIS POSITION, THE TWO TELESCOPING SHAFTS SHOULD ENGAGE AT LEAST SIX (6) INCHES. BE SURE THE PTO CLEARS THE FRONT OF THE CUTTER DECK, WHEN CUTTER IS RAISED. IF IT DOES NOT CLEAR, RE-ADJUST THE TOP-LINK ON YOUR TRACTOR, TO CORRECT THIS PROBLEM. YOU MAY WANT TO SET THE STOP ON YOUR HYDRAULIC CONTROL LEVER, SO THAT THE CUTTER WILL NOT ACCIDENTLY BE RAISED TOO HIGH. NOW, ENGAGE THE PTO, SLOWLY, LET THE ROTARY CUTTER RUN SLOWLY FOR SEVERAL SECONDS AND GRADUALLY INCREASE THROTTLE TO OPERATING SPEED. WATCH CAREFULLY FOR SIGNS OF EXCESSIVE VIBRATION, OR UNUSUAL NOISES. IF ANY ARE NOTICED, DISENGAGE PTO, CUT OFF TRACTOR IMMEDIATELY, WAIT FOR COMPLETE STOP OF ALL MOVING PARTS, AND INVESTIGATE CAUSE. A NEW GEAR BOX MAY BE NOISY AT FIRST, BUT USUALLY A FEW HOURS USE WILL MESH THE GEARS, AND CREATE A QUIETER, SMOOTHER OPERATION.
  2. WE SUGGESTED THAT YOU GET THE FEEL OF YOUR ROTARY CUTTER ON OPEN FAMILIAR GROUND. REMEMBER THAT THE CENTRIFUGAL FORCE OF THE ROTARY BLADES AND CARRIER CAN KEEP PUSHING YOU FORWARD, EVEN AFTER YOU HAVE DISENGAGED YOUR CLUTCH, UNLESS YOUR TRACTOR IS EQUIPPED WITH LIVE PTO OR AN OVER-RUNNER. THEREFORE, APPROACH OBSTACLES WITH CAUTION.
- \*\*\*\* IF IT IS DETERMINED THAT THE PTO SHAFT IS EITHER TOO LONG OR TOO SHORT, FOR YOUR TRACTOR, SEE YOUR DEALER FOR CORRECT SHAFT LENGHTS. THIS IS NOT A FREQUENT PROBLEM, HOWEVER, THE CORRECT SHAFT LENGTH SHOULD BE CHECKED TO AVOID DAMAGE TO THE PTO SHAFT, OR OTHER COMPONENTS.

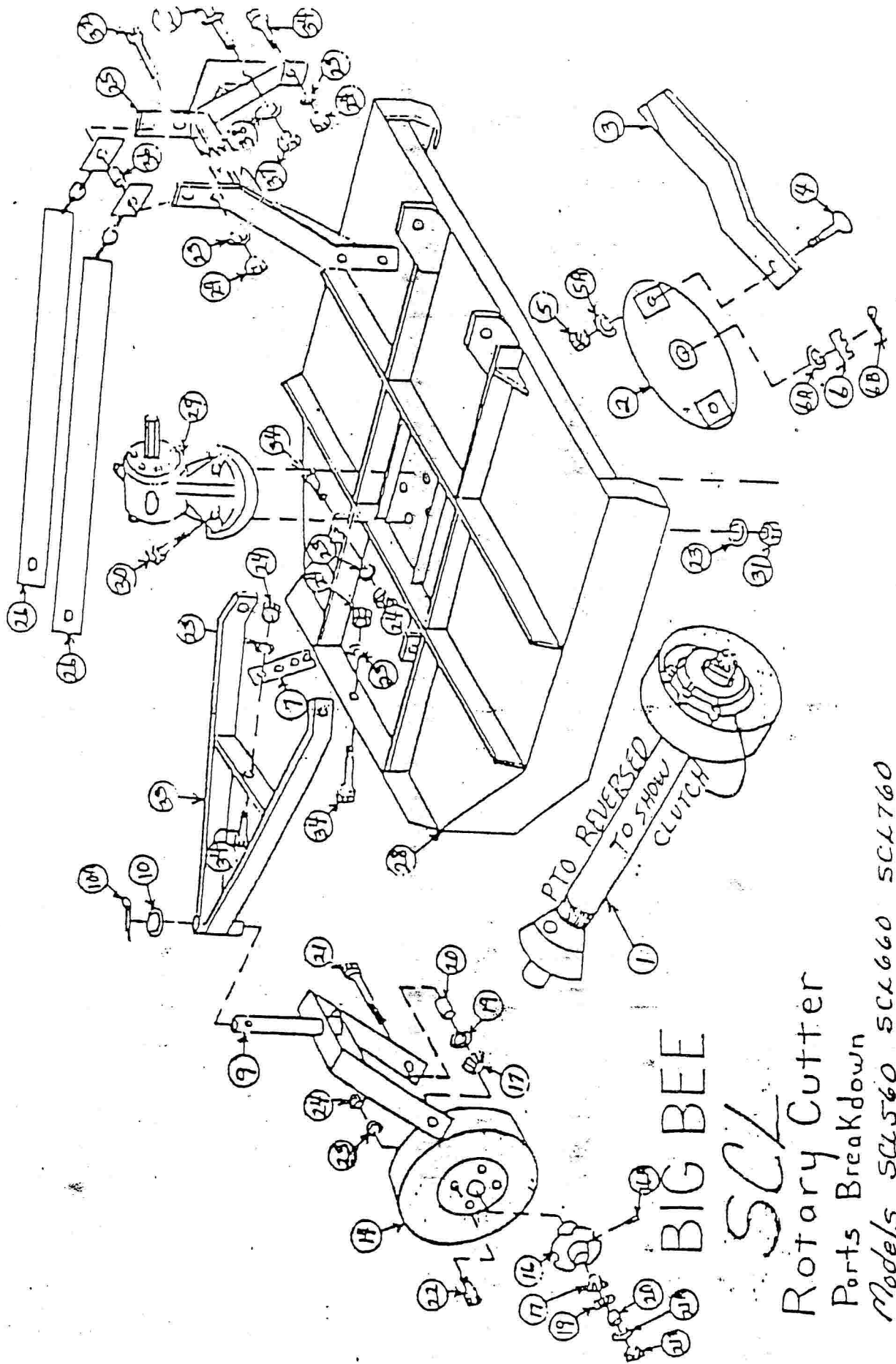
## ASSEMBLY AND SET-UP INSTRUCTIONS

- A. SET UP A-FRAME AND POSITION HITCH PINS IN PROPER POSITION. BE SURE TO USE LOCK WASHERS AND TIGHTEN BOLTS SECURELY, ATTACH FLEX CHAIN BRACE TO A-FRAME THE FASTEN CHAIN END ON TAIL WHEEL ADJUSTMENT BRACKET.
- B. REMOVE THE SNAP RING FROM IN-PUT SHAFT ON GEAR BOX, ATTACH THE PTO SHAFT AND INSTALL SHEAR BOLT. BE SURE TO REPLACE THE SNAP RING TO GEAR BOX IN-PUT SHAFT. THE SNAP RING WILL HOLD THE PTO SHAFT IN PLACE IF THE SHEAR BOLT IS SHEARED.
- C. CHECK ALL BOLTS INCLUDING GEAR BOX MOUNTING BOLTS, BLADE BOLTS AND BLADE CARRIER BOLT.
- D. ADJUST THE TAIL WHEEL BRACKET TO LEVEL THE ROTARY CUTTER OR OBTAIN DESIRED CUTTING POSITION.
- E. LUBRICATE GEAR BOX, TAIL WHEEL HUB, TAIL WHEEL SPINDLE, PTO U-JOINTS.
- F. ATTACH ROTARY CUTTER TO THE TRACTOR.

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BIG BEE

SCZ

Rotary Cutter

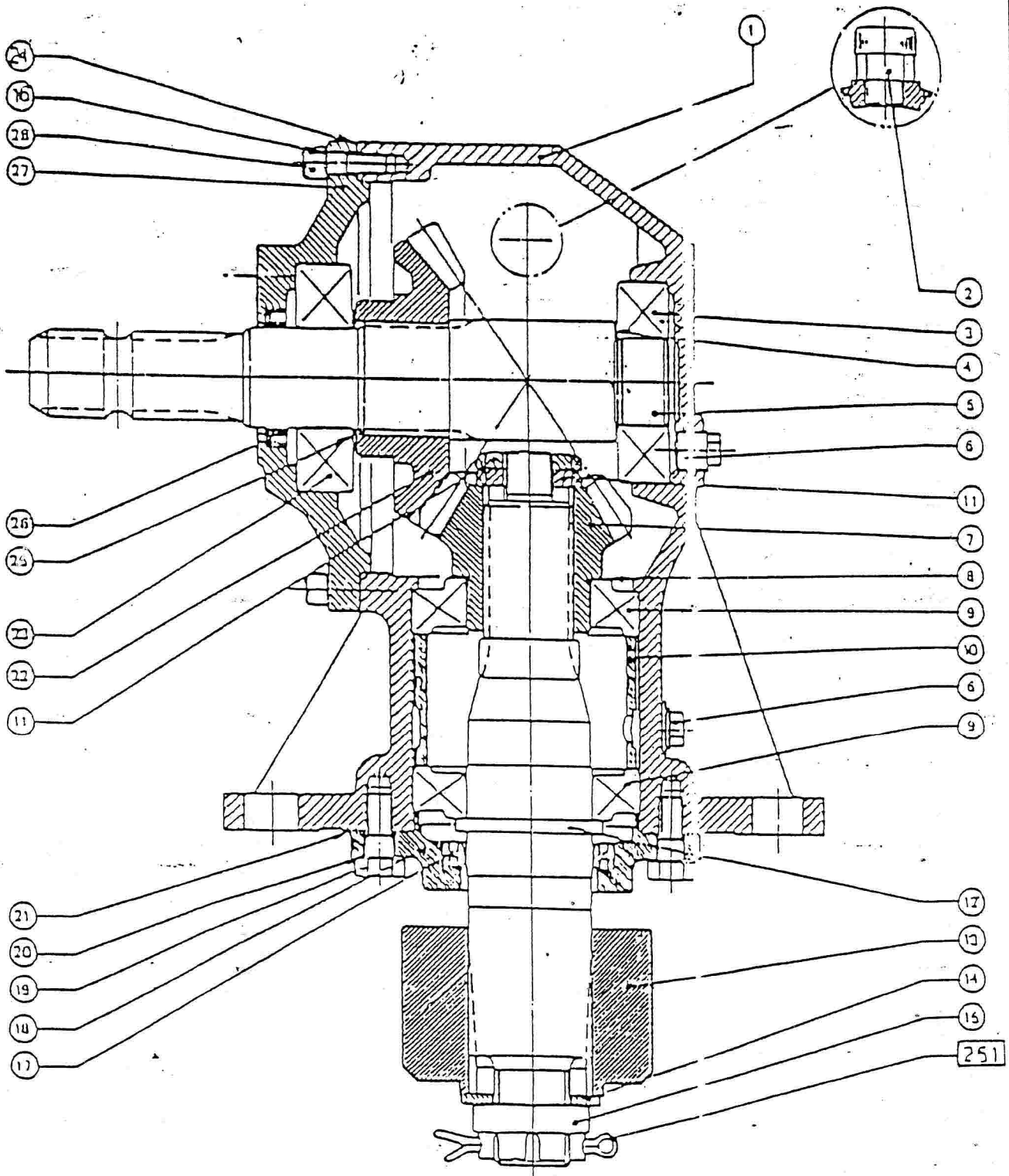
Parts Breakdown

Models SC4560 SC4660 SC4760

NO#	PART NO#	DESCRIPTION	QUANTITY
1	817M11318	PTO ASSEMBLY	1
2	7621	BLADE CARRIER	1
3	7636-5	BLADE	2
3	7636-6	BLADE	2
3	7636-7	BLADE	2
4	7632	BLADE BOLT	2
5	633	NUT, BLADE BOLT	2
5A	HW633A	LOCK WASHER, BLADE BOLT	2
6	7634	NUT, BLADE CARRIER	2
6A	HW7634A	LOCK WASHER, BLADE CARRIER NUT	1
6B	HW634B	HAIR PIN, BLADE CARRIER NUT	1
7	7643	ADJUSTER, TAIL WHEEL BRACKET	1
9	7646	FORK, TAIL WHEEL HOLDER	1
10	7647	WASHER, TAIL WHEEL FORK	1
10A	HW648	HAIR PIN, TAIL WHEEL FORK	1
14	655	TIRE AND RIM, TAIL WHEEL	1
16	658	HUB, ROUND CAST WITH RACES	1
16A	HW1012	GREASE ZERK	1
17	659	BEARINGS, ROUND CAST HUB	2
18	660	RACE, ROUND CAST HUB	2
19	661	SEAL, ROUND CAST HUB	2
20	662	SPACER, ROUND CAST HUB	2
21	663	AXLE, TAIL WHEEL	1
21A	663A	WASHER, TAIL WHEEL AXLE	1
21B	663B	NUT, TAIL WHEEL AXLE	1
22	HW1056	5/8" NC X 1"	4
23	HW1057	5/8" LOCK WASHER	9
24	HW1058	5/8" NC HEX NUT	9
25	7677	A-FRAME WELDED ASSEMBLY	1
26	7695	CHAIN BRACE	2
27	7628	CAT. 2 DRAW PIN	2
28	7684-5	MAIN BODY	1
28	7684-6	MAIN BODY	1
28	7684-7	MAIN BODY	1
29	7617	GEAR BOX	1
30	HW7682A	3/4" X 2 1/4" SAE	4
31	HW7683A	3/4" SAE NUT	4
32	HW6884	5/8" X 4 1/2" NC HEX BOLT	1
33	7642	YOKE, TAIL WHEEL	1
34	HW6883	5/8" X 2" NC HEX BOLT	3
36	7640	BUSHING, A FRAME	1
37	HW333	LOCK WASHER, DRAW PIN	2
38	HW334	NUT SAE, DRAW PIN	2



091725



251

POS.

DESCRIPTION

1	CASING
2	OIL FILLER PLUG
3	BEARING 6307
4	SHIM 35, 3X43
5	SHAFT 3/8"
6	PLUG 3/8" GAS
7	BEVEL PINION Z14
8	SHIM 50, 3X70, 3
9	BEARING 30210
10	SPACER
11	LOCKNUT M30X1,5 H7
12	SHAFT
13	BUSH
14	BOLT WASHER 31X56X4
15	CASTLE NUT M30X2
16	SCHNORR WASHER 8,4X13X1,2
17	DOUBLE LIP SEAL 50X68X10
18	COVER
19	HEX BOLT M10X25 8,8
20	SCHNORR WASHER 10,5X16X1,5
21	GASKET
22	CROWNWHEEL Z21
23	BEARING 6308
24	GASKET
25	SHIM 40, 3X51, 5
26	OIL SEAL 40X56X8
27	COVER
28	HEX BOLT M8X22
251	COTTER PIN B6X60

LF17A  
116 200.00

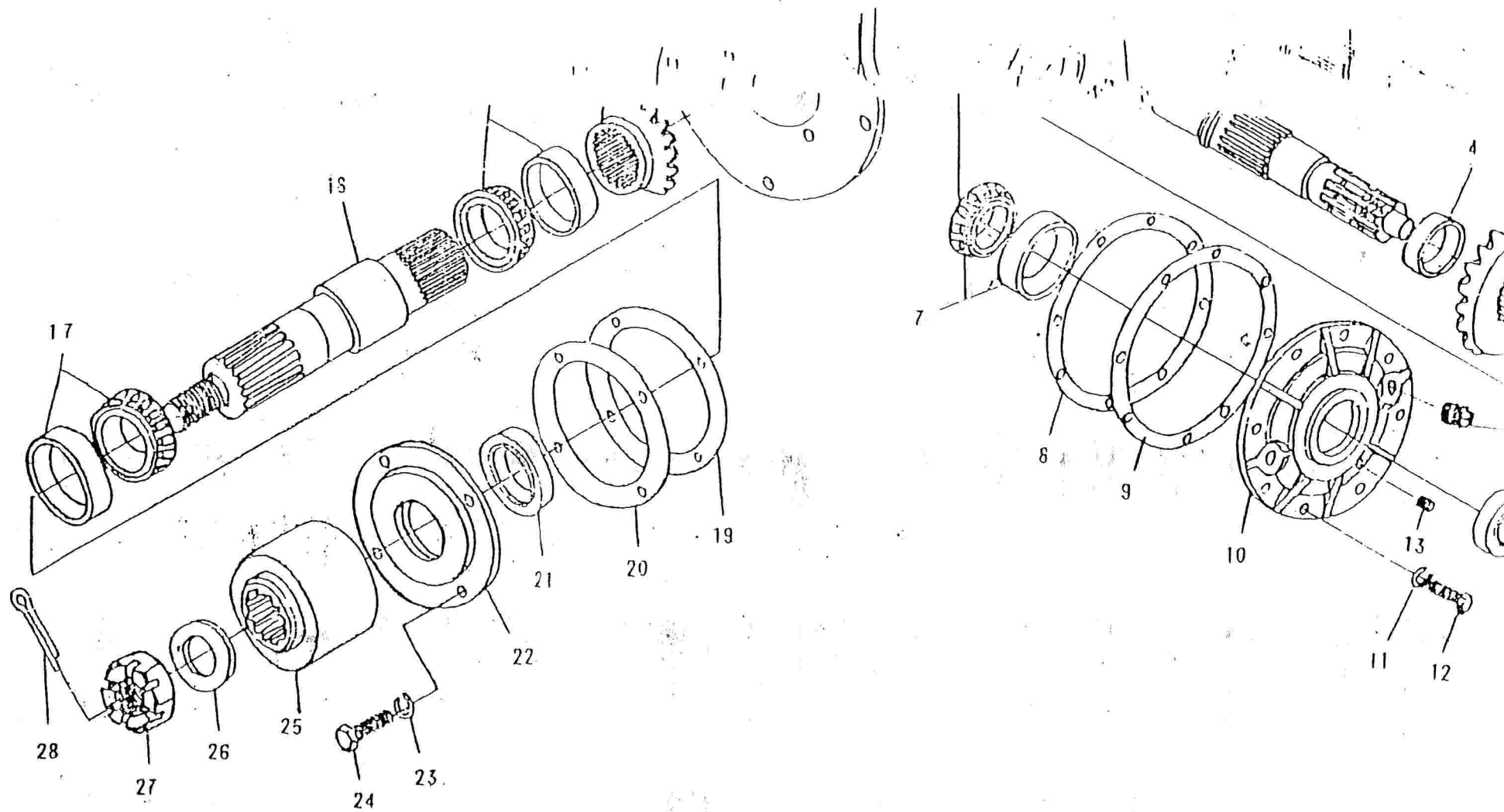


图 5. VCKCKX 锥齿轮箱

Fig. 5 Type 5<sup>st</sup> Gearbox

RC:61 1:1.21 Splined

SCL 760

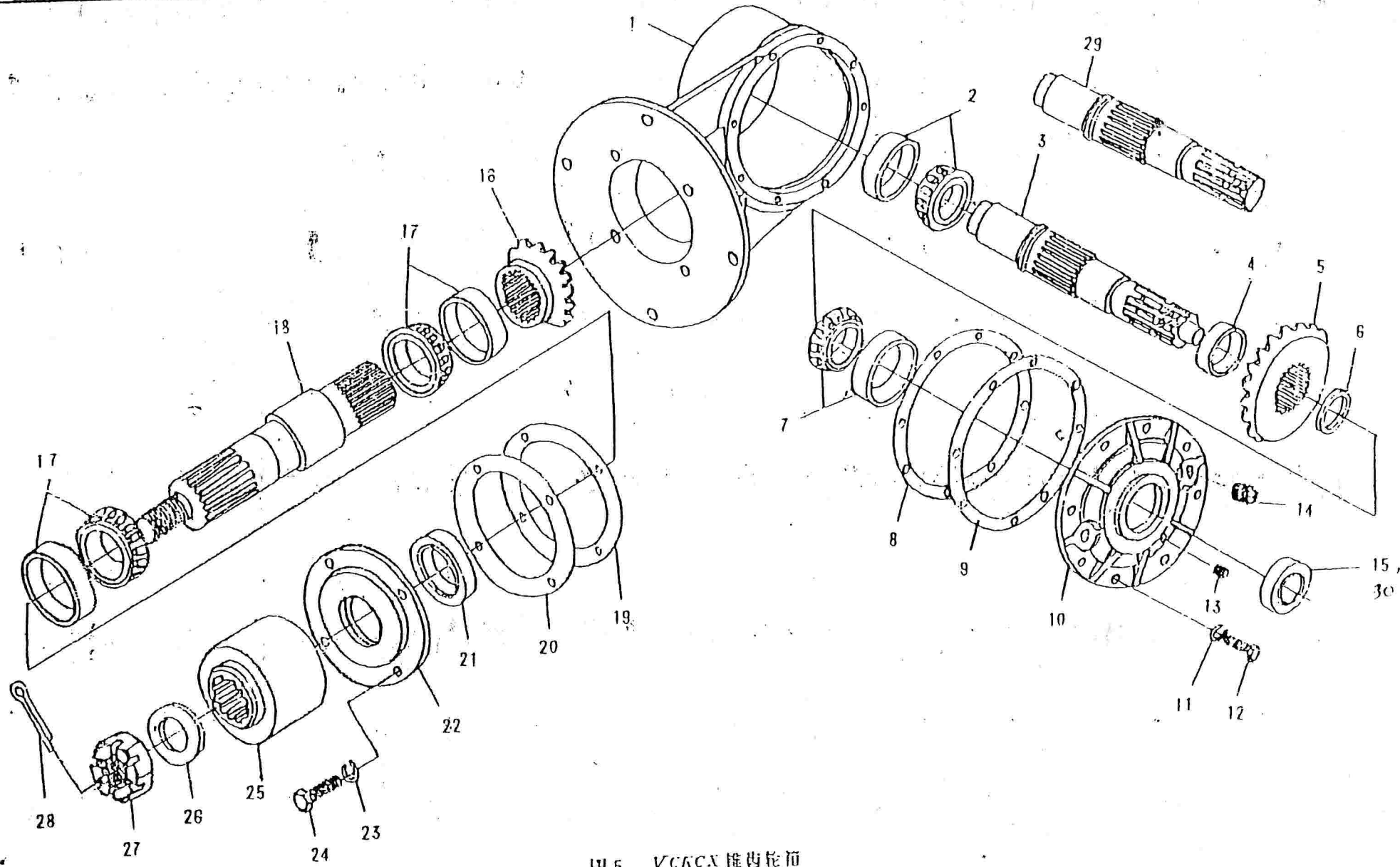


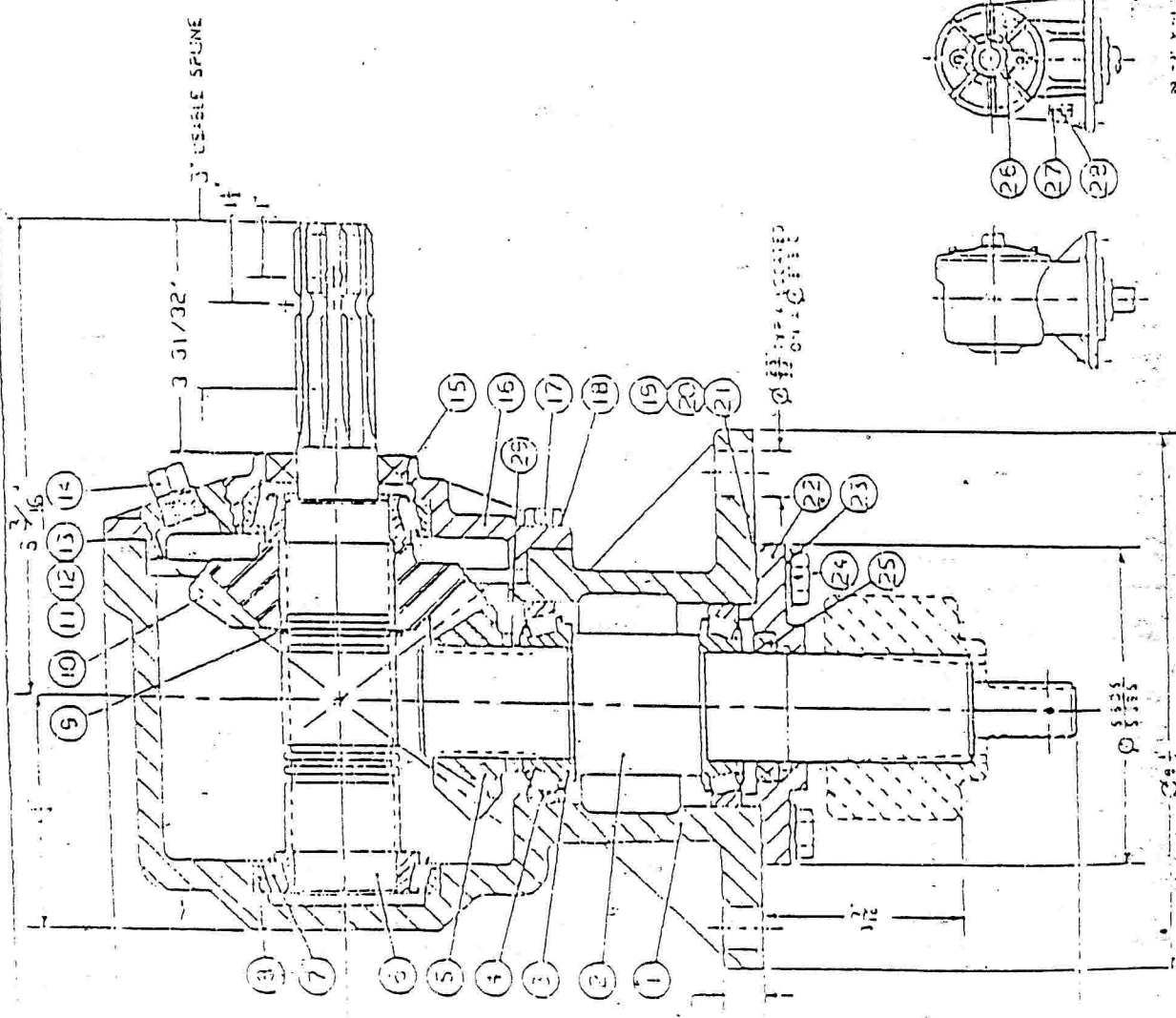
图 5. VCKCX 推齿轮箱  
Fig. 5 Type 5<sup>m</sup> Gearbox

SCL 760

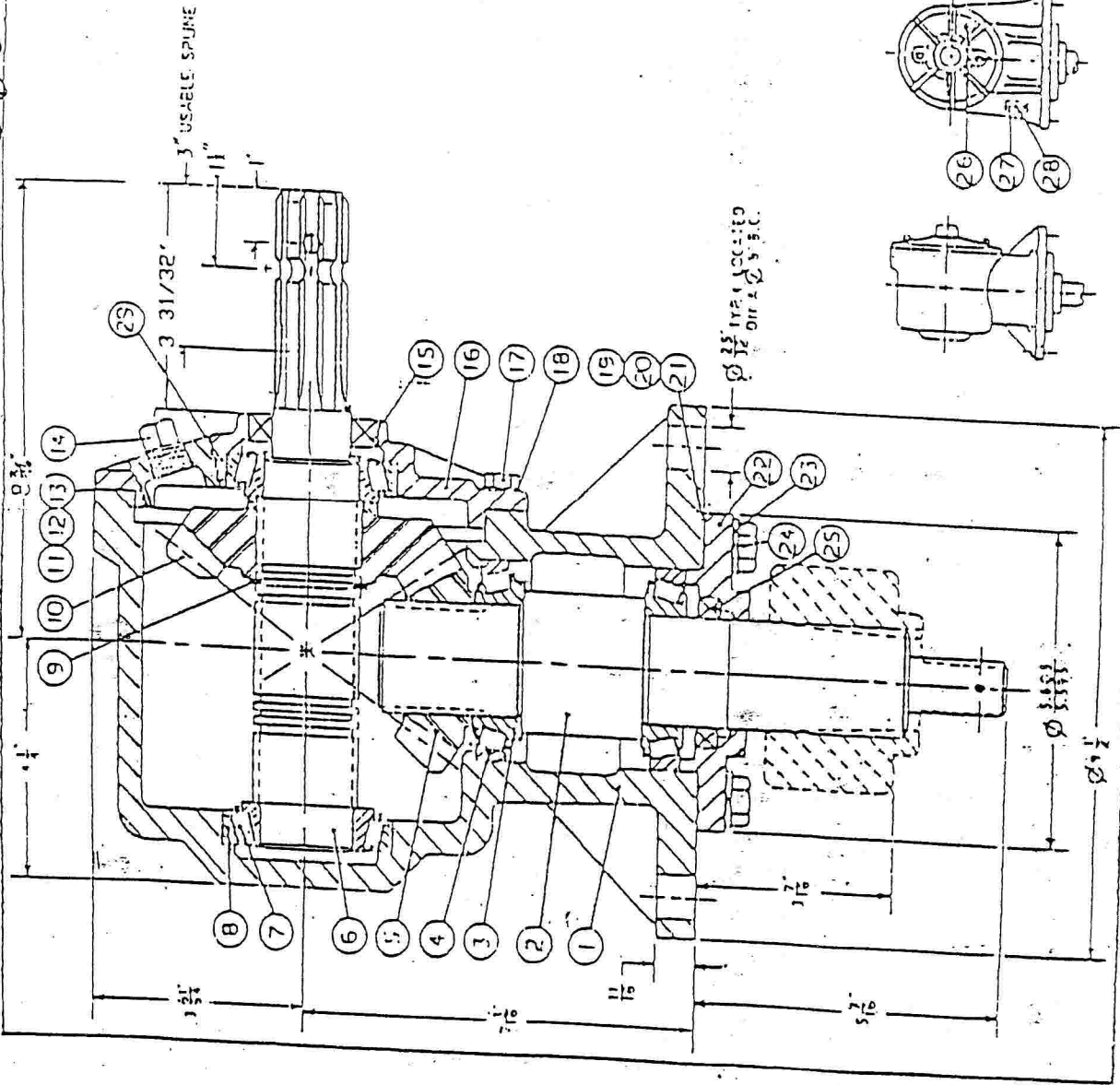
DET	PART NO.	QTY	DESCRIPTION
29	090015	1	SPACER
28	190000	1	I.D. TAG
27	240001	2	RIVET
26	140017	1	1/8" SQ. HD. PIPE PLUG
25	060004	1	SEAL
24	110002	4	CAP SCREW 1/2" X 13 X 1 1/2"
23	150003	4	LOCKWASHER
22	020005	1	OUTPUT CAP
21	070145	VAR	GASKET 0.1
20	070144	VAR	GASKET 0.15
19	070143	VAR	GASKET 0.3
18	130002	8	LOCKWASHER
17	110001	8	CAP SCREW 3/8" X 16 X 1 1/2"
16	020006	1	INPUT CAP
15	060005	1	SEAL
14	140000	2	1/2" SQ. HD. PIPE PLUG
13	070142	VAR	GASKET 0.1
12	070141	VAR	GASKET 0.15
11	070140	VAR	GASKET 0.3
10	030040	1	INPUT GEAR 17T
9	200003	1	RETAINING RING
8	050013	2	BEARING CUP LM603014
7	050012	2	BEARING CONE LM603049
6	040135	1	INPUT SHAFT
5	030041	1	OUTPUT GEAR 14T
4	050015	2	BEARING CUP 362
3	050006	2	BEARING CONE 368
2	040112	1	OUTPUT SHAFT
1	010059	1	HOUSING

OMNI USA, INC.

DATE	REV	BY	CHK
2-15-55			
RC-615PTO 11121 INCREASED		250153	



SCL 560 & SCL 660



29	090055	1	SPACER
28	190000	1	I.O. T.G
27	240001	12	RIVET
26	140017	1	1/8" SQ. HD. PIPE F
25	060004	1	SEAL
24	110002	4	CAP SCREW 1/2" x
23	130003	4	LOCKWASHER
22	020005	1	OUTPUT CAP
21	070145	VAR	GASKET 0.1
20	070144	VAR	GASKET 0.15
19	070143	VAR	GASKET 0.3
18	130002	8	LOCKWASHER
17	110001	8	CAP SCREW 3/8 x 1 1/2
16	020006	1	INPUT CAP
15	060006	1	SEAL
14	140000	2	1/2" SQ. HD. PIPE PLUG
13	070142	VAR	GASKET 0.1
12	070141	VAR	GASKET 0.15
11	070140	VAR	GASKET 0.3
10	030039	1	INPUT GEAR 19T
9	200003	1	RETAINING RING
8	050013	2	BEARING CUP LM60
7	050012	2	BEARING CONE LM60
6	040135	1	INPUT SHAFT
5	030039	1	OUTPUT GEAR 13T
4	050015	2	BEARING CUP 362
3	050009	2	BEARING CONE 368
2	040112	1	OUTPUT SHAFT
1	010059	1	HOUSING
DET PART NO.		QTY	DESCRIPTION

OMINI USA, INC.

RC-515PTO	1:1.16 INCREASE
8-12-86	250184

*Handwritten notes:*  
 26  
 27  
 28

UL56D or SCL66D

PC:61 1:147 Splined

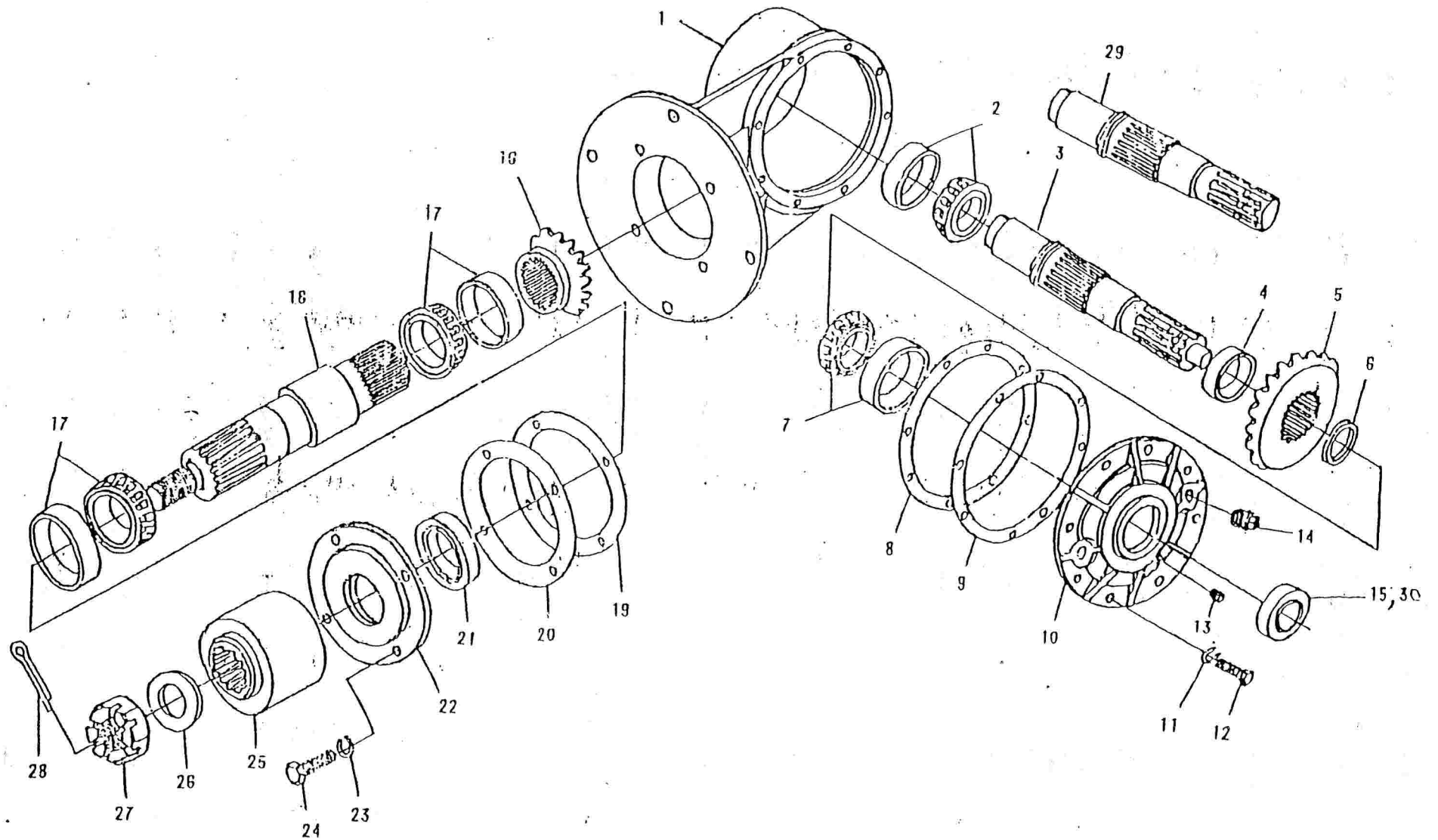


图4. ПСККС 混齿轮箱

Fig. 4 Type A Gearbox

## SCL 560 &amp; SCL 660

REF. NO.	PART NO.	PART NAME	QTY.
4	00E	GEARBOX ASSEMBLY	1
1	01E	HOUSING	1
2		BEARING 7207E	1
3	05E	INPUT SHAFT (TYPE OLD)	1
4	20	SPACER	1
5	09D	INPUT GEAR	1
6	21	SPACER	1
7		BEARING 7209E	1
8	10	GASKET 0.25	VAR.
9	101	GASKET 0.5	VAR.
10	06	INPUT CAP	1
11		LOCK WASHER 10	8
12		CAP SCREW M 10x32	8
13	16	1/8 SQ. HD. PIPE PLUG	1
14	17	1/2 SQ. HD. PIPE PLUG	2
15		SEAL SD 40x62x12 (TYPE OLD)	1
16	04D-2	OUTPUT GEAR	1
17		BEARING 7210E	2
18	04B-1	OUTPUT SHAFT	1
19	11	GASKET 0.25	VAR.
20	111	GASKET 0.5	VAR.
21		SEAL SD 50x70x12	1
22	14	OUTPUT CAP	1
23		LOCK WASHER 12	4
24		CAP SCREW M12x35	4



## SCL 560 &amp; SCL 660

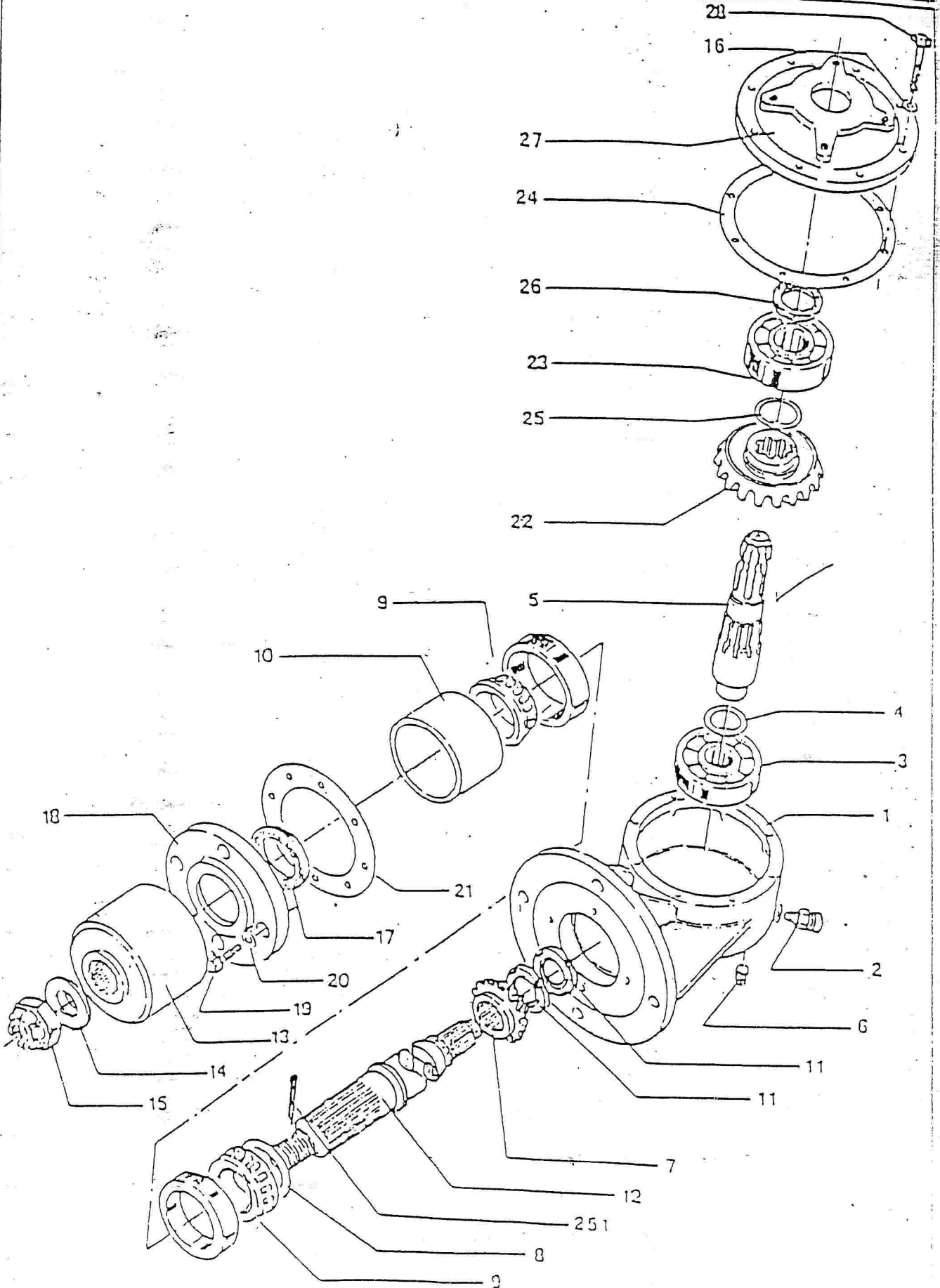
REF. NO.	PART NO.	PART NAME	QTY.
25	13	BLADE HUB	1
26	12	FLAT WASHER	1
27	18	HEX NUT	1
28		COTTER PIN 5x45	1
29	05F	INPUT SHAFT (TYPE NEW)	1
30		SEAL SD 35x62x12 (TYPE NEW)	1

РАБОЧИЙ

4.7.86

DESIGNATION

LF-17A



## SCL 560 OR SCL 660

POS.	DRAWG.NO.	DESCRIPTION	QTY.
1	0.116.0303.02	CASING	1
2	8.6.7.00161	OIL FILLER PLUG 3/8G	1
3	8.0.1.00049	BEARING 6307	1
4	0.259.7500.00	SHIM 35,3x48	1
5	0.116.2002.00	SHAFT 1 3/8	1
6	8.6.5.00006	PLUG 3/8 GAS	2
7	0.116.6204.00	PINION Z14 M5,7	1
8	0.712.7500.00	SHIM 50,3x70,3	1
9	8.0.9.00469	BEARING 30210	2
10	0.116.7102.01	SPACER	1
11	8.2.5.00548	LOCKNUT M30x1,5 H7	2
12	0.116.3201.00	SHAFT	1
13	0.116.7103.01	BUSH	1
14	8.3.2.00764	BOLT WASHER 31x56x4	1
15	8.2.2.00555	CASTLE NUT M30x2 6	1
16	8.3.7.00140	SPRING WASHER 8,4x13x1.2	8
17	8.7.2.00545	DOUBLE LIP SEAL 50x68x10	1
18	0.116.1701.04	COVER	1
19	8.1.1.00061	BOLT M10x25 8,8	4
20	8.3.7.00324	SPRING WASHER 10, 5x16x1,5	4
21	0.116.7203.00	GASKET	1
22	0.132.6004.00	GEAR Z21 M5,7	1
23	8.0.1.00050	BEARING 6308	1
24	0.116.7202.00	GASKET	1
25	0.244.7500.00	SHIM 40,3x51.5	1
26	8.7.3.00044	OIL SEAL 40x56x8	1
27	0.116.1301.01	COVER	1
28	9.1.1.00041	BOLT M8x22 8,8	8
29	8.4.7.00146	COTTER PIN B6x60	1



L 660

NOMINAL SHIM GAP FOR MOUNTING THE OUTPUT GEAR IS 0.50MM (.020"). THIS GAP WILL VARY TO INSURE THE QUIETEST MOUNTING LOCATION, BUT IN NO CASE WILL THIS GAP EVER EXCEED 0.80MM (.031"), OR BE LESS THAN 0 MM (0").

FINAL ADJUSTMENT OF THE BEARINGS ROLLING TORQUE CAN NOT BE MADE UNTIL AFTER ALL ADJUSTMENTS OF THE INPUT AND OUTPUT GEAR HAVE BEEN MADE. ONCE THESE GEARS ARE IN THE CORRECT LOCATION, THEN TIGHTEN BEARING ADJUSTING NUT #11-003 TIGHT ENOUGH TO INSURE THAT ALL PARTS OF THE SHAFT AND BEARING ASSEMBLY ARE FULLY SEATED, THEN LOOSEN THE BEARING ADJUSTING NUT UNTIL A ROLLING TORQUE OF 1.15 TO 1.38 N.M (0.83 TO 1.0 Ft. Lbs.) IS REACHED, THEN BEND 1 OF THE LOCKING TABS OF LOCKWASHER #07-004 INTO THE LOCKING SLOTS OF ADJUSTING NUT #11-003.

NOMINAL GASKET GAP OF OUTPUT CAP TO HOUSING IS 0.50 MM (.020"), THIS GAP WILL VARY TO INSURE THAT BEARINGS #04-011 AND SPACER #10-003 ARE HELD TIGHT AGAINST THE SHOULDERS OF HOUSING #18-001 BY THE OUTPUT CAP #20-002, IN NO CASE WILL THE GASKET GAP EVER EXCEED 1.10MM (.043"), OR BE LESS THAN 0.10 MM (.004").

TIGHTEN CAP SCREWS #06-002 TO A TORQUE OF 101.7 N.M (75 TO 79 Ft. Lbs.).

INPUT SHAFT GEAR ADJUSTING SHIMS: THERE ARE A TOTAL OF 1.0 MM (.040") OF SHIMS FOR THE ADJUSTING OF THIS GEAR. NORMALLY THESE SHIMS ARE PLACED EQUALLY ON THE FRONT AND REAR LOCATION OF THE GEAR, 0.50 MM (.020") FRONT AND REAR, THE SHIMS MAY BE MOVED IN ANY AMOUNT FROM THE FRONT TO THE REAR, OR FROM THE REAR TO THE FRONT, TO ACHIEVE THE QUIETEST MOUNTING LOCATION FOR THIS GEAR, IN NO CASE WILL THERE EVER BE MORE OR LESS THAN 1.0 MM (.040") OF SHIMS, AND THESE SHIMS ARE NEVER USED FOR THE ADJUSTMENT OF THE INPUT SHAFT BEARINGS.

THE NOMINAL BACKLASH OF GEAR MESH IS 0.24 MM (.010"), THIS BACKLASH WILL VARY TO THE QUIETEST MOUNTING LOCATION, BUT IN NO CASE WILL IT EVER EXCEED 0.56 MM (.022").

NOMINAL GASKET GAP OF THE INPUT CAP ON STANDARD ROTATION ASSEMBLIES IS 0.80 MM (.031"). THIS GAP WILL NOT EXCEED 1.30 MM (.051") OR BE LESS THAN 0.50 MM (.020"). ON REVERSED ROTATION ASSEMBLIES THE NOMINAL GAP IS 0.70 MM (.028"), AND WILL NEVER EXCEED 1.30 MM (.051"), OR BE LESS THAN 0.10 MM (.004"). THE CORRECT AMOUNT OF GASKETS IS THAT WHICH WILL RESULT IN A MAXIMUM PRELOAD OF 0.15 MM (.006") OR A MAXIMUM CLEARANCE OF 0.10 MM (.004") ON THE INPUT SHAFT BEARINGS.

TIGHTEN CAP SCREWS #06-003 TO A TORQUE OF 42.0 TO 46.1 N.M (31 TO 34 FT. Lbs.).

FINISHED ASSEMBLIES WILL BE CHECKED FOR LEAKAGE BY PRESSURIZING THEM TO 0.703 Kg./cm (10 PSI). MAXIMUM ALLOWABLE LOSS RATE OF PRESSURE IN 30 SECONDS IS 0.05 Kg/cm (.71PSI)

BLADE HUB NUT #11-008 TO BE INSTALLED ON SHAFT #02-004 TO PROTECT THREADS IN SHIPMENT.

BLADE HUB #15-002 AND COTTER PIN #12-003 WILL BE SHIPPED SEPARATE FROM THE GEAR BOX ASSEMBLY. THESE PARTS WILL BE SHIPPED IN A BOX THAT IS PART OF THE FINISHED GEAR BOX SHIPPING SKID. THIS BOX WILL CONTAIN THE SAME NUMBER OF PARTS AS THERE ARE FINISHED ASSEMBLIES PER SKID.

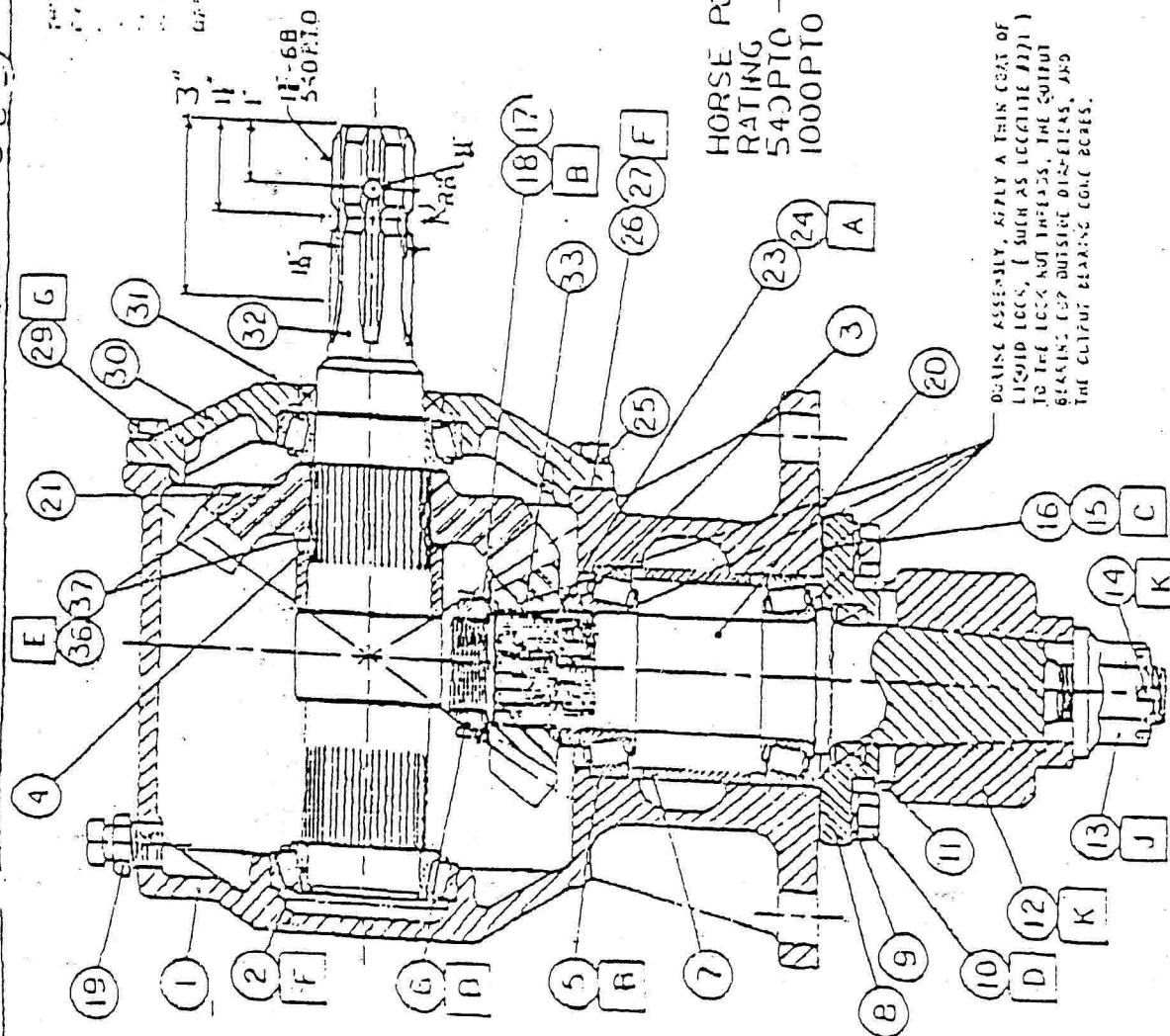
DET.	PART NUMBER	QTY.	DESCRIPTION
1	18-001	1	HOUSING
2	04-017	2	BEARING ASSEMBLY
3	10-016	1	GEAR MOUNTING SPACER
4	21-001	1	RETAINING RING
5	04-011	2	BEARING ASSEMBLY
6	11-003	1	BEARING ADJUSTING NUT
7	10-003	1	OUTPUT BEARING SPACER
8	20-002	1	OUTPUT CAP
9	07-002	4	#12 LOCKWASHER
10	06-002	4	M12 x 1.75 x 38 CAP SCREW
11	05-008	1	OUTPUT SHAFT OIL SEAL
12	15-002	1	2 1/2" BLADE HUB
13	11-008	1	1"-14 FLANGED HEX NUT
14	12-003	1	COTTER PIN
15	08-001	VAR.	OUTPUT CAP GASKET 0.10
16	08-002	VAR.	OUTPUT CAP GASKET 0.25
17	07-002	1	SEAL WASHER #12
18	07-004	1	BEARING NUT LOCKWASHER
19	09-008	1	PRESSURE RELIEF FILL PLUG
20	02-004	1	STD. 75 OUTPUT SHAFT
21	03-009	1	INPUT GEAR 19 TOOTH
22			
23	17-002	VAR.	GEAR ADJUSTING SHIM 0.30
24	17-003	VAR.	GEAR ADJUSTING SHIM 0.50
25	07-001	8	#10 LOCKWASHER
26	08-006	VAR.	INPUT CAP GASKET 0.10
27	08-007	VAR.	INPUT CAP GASKET 0.25
28			
29	06-003	8	M10 x 1.5 x 30 CAP SCREW
30	20-001	1	INPUT CAP
31	05-007	1	INPUT SHAFT OIL SEAL
32	02-001	1	INPUT SHAFT
33	03-008	1	13 TOOTH OUTPUT GEAR
34	09-005	1	1/8" OIL LEVEL PLUG
35			
36	17-002	VAR.	GEAR ADJUSTING SHIM 0.30
37	17-003	VAR.	GEAR ADJUSTING SHIM 0.50



TO: PROJECT		REFERENCE NUMBER		SCALE	DATE
UNITS: SI / IMP					DESIGNED BY: <i>RS</i>
					CHECKED BY:
DECIMAL	FRACTIONAL	TITLE: I.E.G. 75S-1146SU-18-SB			
+	-	4 BOLT MOUNT			
+	-	DATE: 7-27-89	REV. NUMBER: 01-026	QUANTITY: 4	

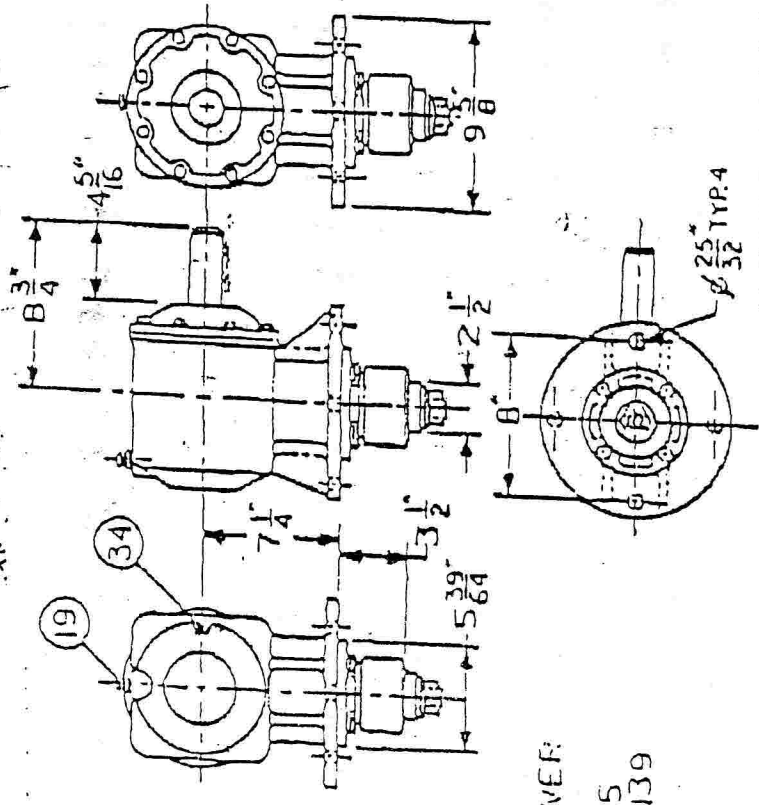
#011  
Pg 4/6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		



HORSE POWER RATING  
540PT0 - 75  
1000PT0 - 139

WEIGHT 82 LBS.



DURING ASSEMBLY, APPLY A THIN COAT OF LIQUID LOCK, ( SUCH AS LOCKITE 1771 ) TO THE LOCK AND THREADS, THE OUTPUT BEARING CAP OUTSIDE DIAPHRAGM, AND THE OUTPUT BEARING COLLAR BORE.

FINISHED ASSEMBLIES WILL NOT EXCEED A NOISE LEVEL OF 80 DB(A) AT A DISTANCE OF 20 INCHES WHEN OPERATED AT STATED INPUT SPEED, AND A TEST LOAD OF 1 KILOGRAMS (2.2 POUNDS).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
																	I.E.G. 75S-1-46SU-1A-6B																		
																	4 BOLT MOUNT																		
																	8-27-90																		
																	01-028																		
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- A- NOMINAL SHIM GAP FOR MOUNTING THE OUTPUT GEAR IS 0.50 MM (.020"). THIS GAP WILL VARY TO INSURE THE QUIETEST MOUNTING LOCATION, BUT IN NO CASE WILL THIS GAP EVER EXCEED 0.80 MM (.031"), OR BE LESS THAN 0 MM (0").
- B- FINAL ADJUSTMENT OF THE BEARINGS ROLLING TORQUE CAN NOT BE MADE UNTIL AFTER ALL ADJUSTMENTS OF THE INPUT AND OUTPUT GEAR HAVE BEEN MADE, ONCE THESE GEARS ARE IN THE CORRECT LOCATION, THEN TIGHTEN BEARING ADJUSTING NUT #11-003 TIGHT ENOUGH TO INSURE THAT ALL PARTS OF THE SHAFT AND BEARING ASSEMBLY ARE FULLY SEATED, THEN LOOSEN THE BEARING ADJUSTING NUT UNTIL A ROLLING TORQUE OF 1.15 TO 1.38 N.M (0.83 TO 1.0 Ft. Lbs.) IS REACHED, THEN BEND 1 OF THE LOCKING TABS OF LOCKWASHER #07-004 INTO THE LOCKING SLOTS OF ADJUSTING NUT #11-003.
- C- NOMINAL GASKET GAP OF OUTPUT CAP TO HOUSING IS 0.50 MM (.020"), THIS GAP WILL VARY TO INSURE THAT BEARINGS #04-011 AND SPACER #10-003 ARE HELD TIGHT AGAINST THE SHOULDER OF HOUSING #18-001 BY THE OUTPUT CAP #20-002, IN NO CASE WILL THE GASKET GAP EVER EXCEED 1.10 MM (.043"), OR BE LESS THAN 0.10 MM (.004").
- D- TIGHTEN CAP SCREWS #06-002 TO A TORQUE OF 101.7 N.M (75 TO 79 Ft. Lbs.).
- E- INPUT SHAFT GEAR ADJUSTING SHIMS: THERE ARE A TOTAL OF 1.0 MM (.040") OF SHIMS FOR THE ADJUSTING OF THIS GEAR, NORMALLY THESE SHIMS ARE PLACED EQUALLY ON THE FRONT AND REAR LOCATION OF THE GEAR, 0.50 MM (.020") FRONT AND REAR, THE SHIMS MAY BE MOVED IN ANY AMOUNT FROM THE FRONT TO THE REAR, OR FROM THE REAR TO THE FRONT, TO ACHIEVE THE QUIETEST MOUNTING LOCATION FOR THIS GEAR, IN NO CASE WILL THERE EVER BE MORE OR LESS THAN 1.0 MM (.040") OF SHIMS, AND THESE SHIMS ARE NEVER USED FOR THE ADJUSTMENT OF THE INPUT SHAFT BEARINGS.
- A/E- THE NOMINAL BACKLASH OF GEAR MESH IS 0.24 MM (.010"), THIS BACKLASH WILL VARY FOR THE QUIETEST MOUNTING LOCATION, BUT IN NO CASE WILL IT EVER EXCEED 0.56 MM (.022").
- F- NOMINAL GASKET GAP OF THE INPUT CAP ON STANDARD ROTATION ASSEMBLIES IS 0.80 MM (.031"). THIS GAP WILL NOT EXCEED 1.30 MM (.051") OR BE LESS THAN 0.50 MM (.020"). ON REVERSED ROTATION ASSEMBLIES THE NOMINAL GAP IS 0.70 MM (.028"), AND WILL NEVER EXCEED 1.30 MM (.051"), OR BE LESS THAN 0.10 MM (.004"). THE CORRECT AMOUNT OF GASKETS IS THAT WHICH WILL RESULT IN A MAXIMUM PRELOAD OF 0.15 MM (.006") OR A MAXIMUM CLEARANCE OF 0.10 MM (.004") ON THE INPUT SHAFT BEARINGS.
- G- TIGHTEN CAP SCREWS #06-003 TO A TORQUE OF 42.0 TO 46.1 N.M (31 TO 34 FT. LBS.)
- H- FINISHED ASSEMBLIES WILL BE CHECKED FOR LEAKAGE BY PRESSURIZING THEM TO 0.703 Kg/cm (10 PSI). MAXIMUM ALLOWABLE LOSS RATE OF PRESSURE IN 30 SECONDS IS 0.05 Kg/cm (.717 PSI)
- J- BLADE HUB NUT #11-008 TO BE INSTALLED ON SHAFT #02-004 TO PROTECT THREADS IN SHIPMENT.
- K- BLADE HUB #15-002 AND COTTER PIN #12-003 WILL BE SHIPPED SEPARATE FROM THE GEAR BOX ASSEMBLY. THESE PARTS WILL BE SHIPPED IN A BOX THAT IS PART OF THE FINISHED GEAR BOX SHIPPING SKID, THIS BOX WILL CONTAIN THE SAME NUMBER OF PARTS AS THERE ARE FINISHED ASSEMBLIES PER SKID.

DET.	PART NUMBER	QTY.	DESCRIPTION
1	18-001	1	HOUSING
2	04-011	2	BEARING ASSEMBLY
3	10-016	1	GEAR MOUNTING SPACER
4	10-001	1	SPACER
5	04-011	2	BEARING ASSEMBLY
6	11-003	1	BEARING ADJUSTING NUT
7	10-003	1	OUTPUT BEARING SPACER
8	20-002	1	OUTPUT CAP
9	07-002	4	# 12 LOCKWASHER
10	06-002	4	M12 x 1.75 x 38 CAP SCREW
11	05-008	1	INPUT SHAFT OIL SEAL
12	15-002	1	2 1/2" BLADE HUB
13	11-008	1	1" - 14 FLANGED HEX NUT
14	12-003	1	COTTER PIN
15	08-001	VAR.	OUTPUT CAP GASKET D. 10
16	08-002	VAR.	OUTPUT CAP GASKET D. 25
17	07-005	1	FLAT WASHER
18	07-004	1	BEARING NUT LOCKWASHER
19	09-008	1	PRESSURE RELIEF FILL PLUG
20	02-004	1	STD. 25 OUTPUT SHAFT
21	03-009	1	INPUT GEAR IS TOOTH
22			
23	17-002	VAR.	GEAR ADJUSTING SHIM 0.30
24	17-003	VAR.	GEAR ADJUSTING SHIM 0.50
25	07-001	8	#12 LOCKWASHER
26	08-006	VAR.	INPUT CAP GASKET 0.10
27	08-007	VAR.	INPUT CAP GASKET 0.25
28			
29	05-003	8	M10 x 1.5 x 30 CAP SCREW
30	20-001	1	INPUT CAP
31	05-001	1	INPUT SHAFT OIL SEAL
32	02-002	1	INPUT SHAFT
33	03-008	1	11 TOOTH INPUT GEAR
34	05-005	1	1/8" OIL LEVEL FILL
35			
36	17-002	VAR.	GEAR ADJUSTING SHIM 0.30
37	17-003	VAR.	GEAR ADJUSTING SHIM 0.50

IEG755-1146SII-R-69  
4 BOLT MOUNT

827-90

01-028

PROCEDURE FOR REMOVING BLADES FROM  
BIG BEE ROTARY CUTTERS

THERE ARE TWO(2) WAYS TO REMOVE BLADES FROM THE BIG BEE ROTARY CUTTERS FOR REPLACEMENT AND/OR SHARPENING. ONE PROCEDURE IS ACCOMPLISHED BY CUTTING A HOLE IN THE TOP DECK OF THE ROTARY CUTTER EITHER DIRECTLY BEHIND OR IN FRONT OF THE GEARBOX. THE PREFERRED POSITION WOULD BE IN THE FRONT BUT EITHER PLACE IS PERMISSIBLE. TO FIND THE PROPER LOCATION FOR HOLE PLACEMENT, MEASURE SEVEN(7) INCHES FROM THE CENTER OF THE GEARBOX. THIS POINT WILL BE THE CENTER OF THE HOLE TO BE DRILLED. THE LOCATION OF THIS HOLE WILL ALSO BE APPROXIMATELY TWO(2) INCHES FROM THE GEARBOX MOUNTING PLATE. THE HOLE YOU CUT (DRILL) SHOULD BE AT LEAST THREE(3) INCHES IN DIAMETER. THIS HOLE WILL ALLOW YOU TO UTILIZE A SOCKET FOR FAST AND EASY REMOVAL OF THE BLADES FROM THE STUMP JUMPER.

THE SECOND METHOD OF REMOVAL IS BY TAKING THE KEY AND CASTLE NUT OFF OF THE GEARBOX OUTPUT SHAFT. THIS ALLOWS YOU TO REMOVE THE COMPLETE STUMP JUMPER. ALTERNATING BLOWS TO THE HEAD OF THE BLADE BOLTS ALLOWS YOU TO "WALK" THE ENTIRE JUMPER FROM THE SHAFT. WHEN REMOVAL OF THE JUMPER IS COMPLETED YOU NEED ONLY TO REMOVE THE BLADES FROM THE JUMPER TO SHARPEN OR REPLACE.

CAUTION: ALWAYS BE SURE TO WEAR PROTECTIVE EYE GEAR TO AVOID INJURY WHILE CUTTING OR HAMMERING

CAUTION: BE SURE BLADES ARE NOT IN MOTION BEFORE ATTEMPTING TO REMOVE BLADES FROM MACHINE.



GENERAL MAINTENANCE

1. CHECK OIL LEVEL IN GEAR BOX PERIODICALLY. KEEP LEVEL UP TO CHECK PLUG. USE SAE 90 OR SAE 140 TRANSMISSION OIL. USE CAUTION NOT TO OVER FILL.
2. LUBRICATE UNIVERSAL JOINT ON PTO SHAFT EVERY FEW HOURS OF USE. KEEP PTO SHAFT FREE OF DIRT AND FOREIGN MATERIALS SO THAT IT WILL TELESCOPE FREELY TO AVOID DAMAGE TO YOUR TRACTOR OR ROTARY CUTTER.
3. LUBRICATE TAIL WHEEL.
4. KEEP BLADES SHARP. WHEN REPLACING WORN BLADES, BE SURE TO REPLACE IN PAIRS TO MAINTAIN ROTARY BALANCE.
5. KEEP ALL BOLTS TIGHTENED PROPERLY.

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WARRANTY

WE WARRANTY EACH NEW BIG BEE ROTARY CUTTER AGAINST DEFECT IN MATERIAL OR WORKMANSHIP FOR A PERIOD OF 90 DAYS OR A REASONABLE PERIOD OF TIME DEPENDANT UPON THE TYPE OF USE OF THE MACHINE.

IN THE EVENT IT IS NECESSARY TO REPLACE OR REPAIR AND PART(S) DURING THE WARRANTY PERIOD GO TO YOUR DEALER WITH THE DEFECTIVE PART(S) AND HE WILL ASSIST YOU IN SECURING THE NEEDED REPLACEMENT, OR RETURN THE DEFECTIVE PART(S) TO

DHE  
WARRANTY DIVISION  
P.O. BOX 140  
GOLDEN ROAD  
RED BAY, AL. 35582

NEITHER MANUFACTURER OR THE DEALER SHALL BE HELD RESPONSIBLE FOR LOSS OF USE OF THE MACHINE, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS OR CONSEQUENTIAL DAMAGES.

IN ORDER FOR YOUR BIG BEE ROTARY CUTTER TO BE COVERED BY OUR WARRANTY POLICY, THE EQUIPMENT REGISTRATION FORM ON THE BACK COVER MUST BE COMPLETED AND RETURNED WITHIN 10 (TEN) DAYS AFTER THE PURCHASE DATE.

THE WARRANTY POLICY IS NOT EFFECTIVE UNLESS THE EQUIPMENT REGISTRATION IS RECORDED IN OUR OFFICE.

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NOMINAL SHIM GAP FOR MOUNTING THE OUTPUT GEAR IS 0.50 MM (.020"). THIS GAP WILL VARY TO INSURE THE QUIETEST MOUNTING LOCATION, BUT IN NO CASE WILL THIS GAP EVER EXCEED 0.80 MM (.031"), OR BE LESS THAN 0 MM (0").

FINAL ADJUSTMENT OF THE BEARINGS ROLLING TORQUE CAN NOT BE MADE UNTIL AFTER ALL ADJUSTMENTS OF THE INPUT AND OUTPUT GEAR HAVE BEEN MADE. ONCE THESE GEARS ARE IN THE CORRECT LOCATION, THEN TIGHTEN BEARING ADJUSTING NUT #11-003 TIGHT ENOUGH TO INSURE THAT ALL PARTS OF THE SHAFT AND BEARING ASSEMBLY ARE FULLY SEATED, THEN LOOSEN THE BEARING ADJUSTING NUT UNTIL A ROLLING TORQUE OF 1.15 TO 1.38 N.M (0.83 TO 1.0 FT. LBS.) IS REACHED. THEN BEND 1 OF THE LOCKING TABS OF LOCKWASHER #7-004 INTO THE LOCKING SLOTS OF ADJUSTING NUT #11-003.

NOMINAL GASKET GAP OF OUTPUT CAP TO HOUSING IS 0.50 MM (.020"). THIS GAP WILL VARY TO INSURE THAT BEARINGS #04-011 AND SPACER #10-003 ARE HELD TIGHT AGAINST THE SHOULDERS OF HOUSING #19-001 BY THE OUTPUT CAP #20-002, IN NO CASE WILL THE GASKET GAP EVER EXCEED 1.10 MM (.043"), OR BE LESS THAN 0.10 MM (.004").

TIGHTEN CAP SCREWS #06-002 TO A TORQUE OF 101.7 N.M (75 TO 73 FT. LBS.).

INPUT SHAFT GEAR ADJUSTING SHIMS: THERE ARE A TOTAL OF 3.0 MM (.040") OF SHIMS FOR THE ADJUSTING OF THIS GEAR. NORMALLY THESE SHIMS ARE PLACED EQUALLY ON THE FRONT AND REAR LOCATION OF THE GEAR, 0.50 MM (.020") FRONT AND REAR. THE SHIMS MAY BE MOVED IN ANY AMOUNT FROM THE FRONT TO THE REAR, OR FROM THE REAR TO THE FRONT, TO ACHIEVE THE QUIETEST MOUNTING LOCATION FOR THIS GEAR, IN NO CASE WILL THERE EVER BE MORE OR LESS THAN 3.0 MM (.040") OF SHIMS, AND THESE SHIMS ARE NEVER USED FOR THE ADJUSTMENT OF THE INPUT SHAFT BEARINGS.

THE NOMINAL BACKLASH OF GEAR MESH IS 0.24 MM (.010"). THIS BACKLASH WILL VARY TO INSURE THE QUIETEST MOUNTING LOCATION, BUT IN NO CASE WILL IT EVER EXCEED 0.56 MM (.022").

NOMINAL GASKET GAP OF THE INPUT CAP ON STANDARD ROTATION ASSEMBLIES IS 0.80 MM (.031"). THIS GAP WILL NOT EXCEED 1.30 MM (.051") OR BE LESS THAN 0.50 MM (.020"). REVERSED ROTATION ASSEMBLIES THE NOMINAL GAP IS 0.70 MM (.028"), AND WILL NEVER EXCEED 1.30 MM (.051"), OR BE LESS THAN 0.10 MM (.004"). THE CORRECT AMOUNT OF SLITS IS THAT WHICH WILL RESULT IN A MAXIMUM PRELOAD OF 0.15 MM (.006") OR A SLIT CLEARANCE OF 0.10 MM (.004") ON THE INPUT SHAFT BEARINGS.

TIGHTEN CAP SCREWS #06-003 TO A TORQUE OF 42.0 TO 46.1 N.M (31 TO 34 FT. LBS.).

ASSEMBLED ASSEMBLIES WILL BE CHECKED FOR LEAKAGE BY PRESSURIZING THEM TO 0.703 Kg/cm<sup>2</sup> (10 PSI). MAXIMUM ALLOWABLE LOSS RATE OF PRESSURE IN 30 SECONDS IS 0.05 Kg/cm<sup>2</sup> (.71 PSI)

BE HUB NUT #11-005 TO BE INSTALLED ON SHAFT #02-004 TO PROTECT THREADS IN SHIPMENT.

BE HUB #15-002 AND COTTER PIN #12-003 WILL BE SHIPPED SEPARATE FROM THE GEAR BOX ASSEMBLY. THESE PARTS WILL BE SHIPPED IN A BOX THAT IS PART OF THE FINISHED GEAR BOX SHIPPING SKID. THIS BOX WILL CONTAIN THE SAME NUMBER OF PARTS AS THERE ARE FINISHED ASSEMBLIES PER SKID.

DET.	PART NUMBER	QTY.	DESCRIPTION
1	18-001	1	HOUSING
2	04-011	2	BEARING ASSEMBLY
3	10-016	1	GEAR MOUNTING SPACER
4	10-001	1	SPACER
5	04-011	2	BEARING ASSEMBLY
6	11-003	1	BEARING ADJUSTING NUT
7	10-003	1	OUTPUT BEARING SPACER
8	20-002	1	OUTPUT CAP
9	07-002	4	# 12 LOCKWASHER
10	06-002	4	M12 x 1.75 x 38 CAP SCREW
11	05-008	1	OUTPUT SHAFT OIL SEAL
12	15-002	1	2 1/2" BLADE HUB
13	11-008	1	1"-16 FLANGED HEX NUT
14	12-003	1	COTTER PIN
15	08-001	VAR.	OUTPUT CAP GASKET 0.10
16	08-002	VAR.	OUTPUT CAP GASKET 0.25
17	07-004	1	FLAT WASHER
18	07-004	1	BEARING NUT LOCKWASHER
19	09-008	1	PRESSURE RELIEF FILL PLUG
20	07-004	1	STD. 75 OUTPUT SHAFT
21	03-009	1	INPUT GEAR 19 TOOTH
22			
23	17-002	VAR.	GEAR ADJUSTING SHIM 0.30
24	17-003	VAR.	GEAR ADJUSTING SHIM 0.50
25	07-001	8	#12 LOCKWASHER
26	08-006	VAR.	INPUT CAP GASKET 0.10
27	08-007	VAR.	INPUT CAP GASKET 0.25
28			
29	06-003	8	M10 x 1.5 x 32 CAP SCREW
30	20-001	1	INPUT CAP
31	05-007	1	INPUT SHAFT OIL SEAL
32	02-002	1	INPUT SHAFT
33	03-008	3	13 TOOTH OUTPUT GEAR
34	05-005	1	1/8" OIL LEVEL PLUG
35			
36	17-002	VAR.	GEAR ADJUSTING SHIM 0.30
37	17-003	VAR.	GEAR ADJUSTING SHIM 0.50

I.E.G.755-1:1465U-12-EB  
 4 BOLT MOUNT  
 R<sub>s</sub> ✓ 8-27-90 01-028 5

OWNER REGISTRATION

\*\*\*\*\*

OWNERS NAME: \_\_\_\_\_

STREET ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

\*\*\*\*\*

PURCHASED FROM: \_\_\_\_\_

STREET ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

DATE PURCHASED: \_\_\_\_\_

\*\*\*\*\*

DATE: \_\_\_\_\_ OWNER'S SIGNATURE: \_\_\_\_\_

MODEL: \_\_\_\_\_

EQUIPMENT NAME: \_\_\_\_\_

SIZE: \_\_\_\_\_

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