

VIPAC

Vibratory Trench Compactors



HA 390P and HA 390S

- ◆ New Generation Hatz Supra Diesel Engine.
- ◆ Newly designed lifting frame.

The Vipac is a new locally designed and manufactured roller, backed by 30 years experience in the compaction industry. It is powered by the New Generation Hatz Supra Diesel Engine. The roller comes standard with the unique lifting frame, essential in trench applications. The frame has been designed to allow easy access to daily maintenance checking points

The Vipac is available in either the HA 390P (Profile drums), or the HA 390S (Smooth drum, fitted with water tanks and sprinkler system).

Some features of the New Generation Hatz Supra Diesel Engine include:

- ◆ Pressure lubrication with gear oil pump.
- ◆ Oil sump of sheet metal.
- ◆ Emission of noise reduced to the absolute minimum.
- ◆ Economical fuel consumption.
- ◆ Easily serviced due to automatic injection pump bleeding.
- ◆ Secure and effortless starting thanks to automatic extra fuel device.



The new lifting frame enabling safe and easy access to trenches.



Recommended Torque specification for bolts and nuts used on VIPAC machines:

Please note that self locking NYLOCK NUTS should always be replaced by new ones and Anaerobic bonding liquids should be used on re-assembly of components i.e. bolts, screws, nuts and studs (Anaerobic liquid specifications and users instructions are available on request.

Following tensile strength might be used on bolts:

8.8 = 8 G
 10.9 = 10 K
 12.9 = 12 K

BOLT SIZE	TORQUES Nm (ft lbs)		
	8.8	10.9	12.9
M5	6 (4)	8.5 (6)	10 (7)
M6	10 (7)	15 (11)	18 (13)
M8	25 (18)	35 (26)	45 (33)
M10	50 (27)	75 (55)	85 (63)
M12	90 (66)	125 (92)	150 (111)
M16	215 (159)	305 (225)	365 (269)

When tightening bolts and nuts always use a torque wrench.

MACHINE DIMENSIONS

	HA 390 P	HA 390 S
Basic Weight (Empty Tanks)	490 Kg	490 Kg
Overall Length	2040 mm	2040 mm
Overall Width	470 mm	470 mm
Overall Height	1030 mm	1030 mm
Width of Drums	390 mm	390 mm
Watertank Capacity	-	44 Litres

OPERATION AND LUBRICATION GUIDELINES ON THE VIPAC HA390S/P, HA650, HA630, HA760 AND HA900

OPERATION

When starting, open the Black Knob to maximum forward position. Lift decompression lever all the way and start with crank handle. When engine has started, move black knob to centre position. Let idle for at least 5 minutes or until the tappet cover feels hot under your hand. You are now ready to start work.

For Travel:

Push speed control to high speed and push red knob to **maximum** forward position. For reverse, **maximum** rear position.

For Vibration Forward and Reverse:

Speed control in slow, push both the black and the red knobs **maximum** forward and for reverse, speed control in slow, push black knob **maximum** forward and the red knob **maximum** to the rear.

Note: There is a neutral position between the fast and slow.

MAINTENANCE

- Check engine oil twice daily.
- Never overfill engine or gearbox.
- Check drive belts to gearbox weekly and adjust when necessary.
- Do not force speed lever.

OIL

Engine	15W40 Series 3 Engine Oil
Gearbox	15W40 Series 3 Engine Oil
Final Drive	EP140

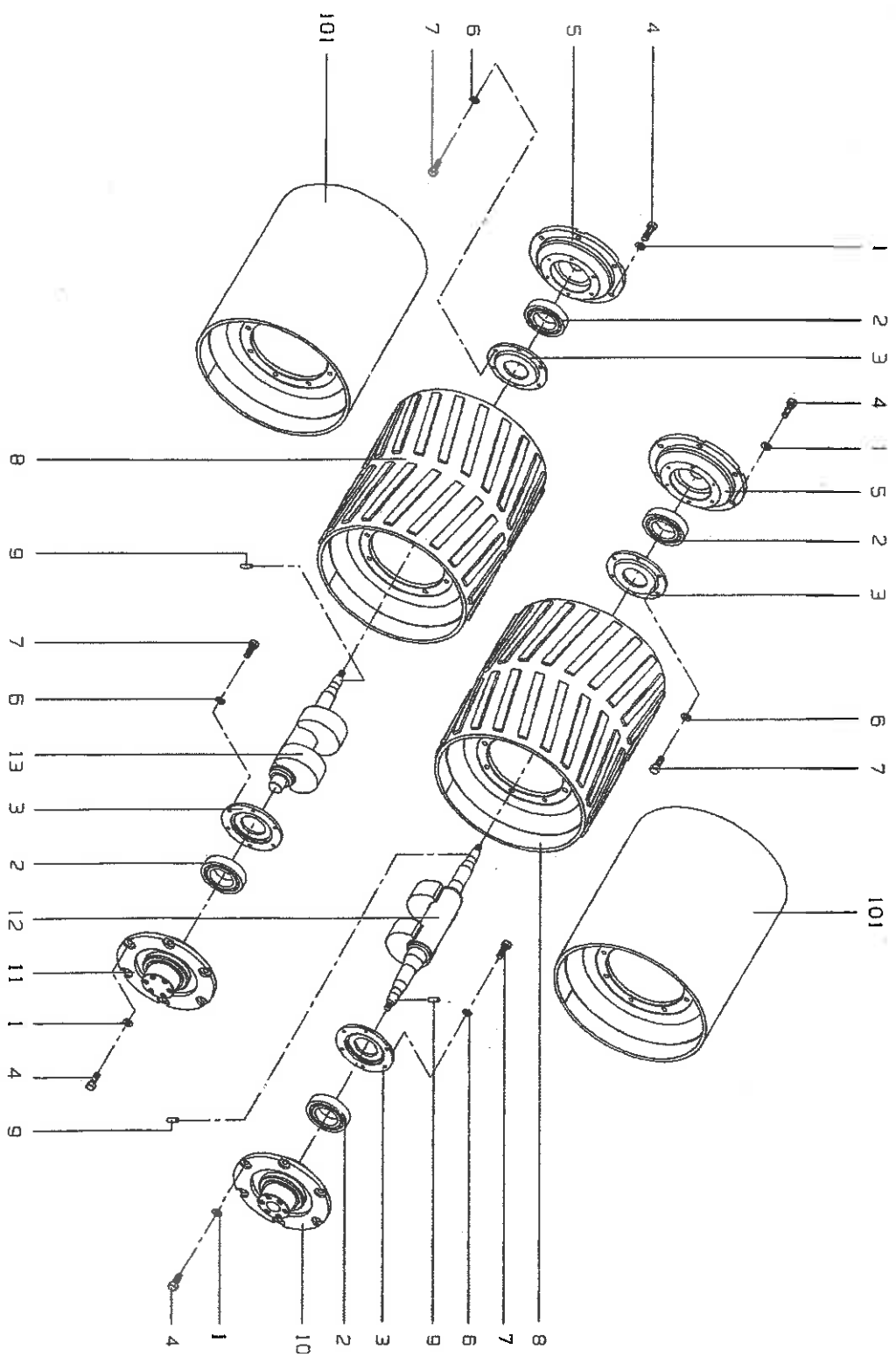
HINTS

- Only drain oil when hot.
- Park machine a slight (2°) angle when draining oil.
- Relube drive gears bi-annually. (Not on HA390 and HA900)
- Do sediment drain monthly.

INDEX

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390 - 52	Disc Clutch
390 - 53	Dipstick Modification
390 - 60	Frame & Gearbox
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390 - 62	Gas Control
390 - 63	Drive Control
390 - 64	Water Tanks
390 - 70	Engine
390 - 71	Centrifugal Clutch
390 - 90	Chain Drive
390 - 91	Tensioner

390 - 10 ROLLER DRUMS

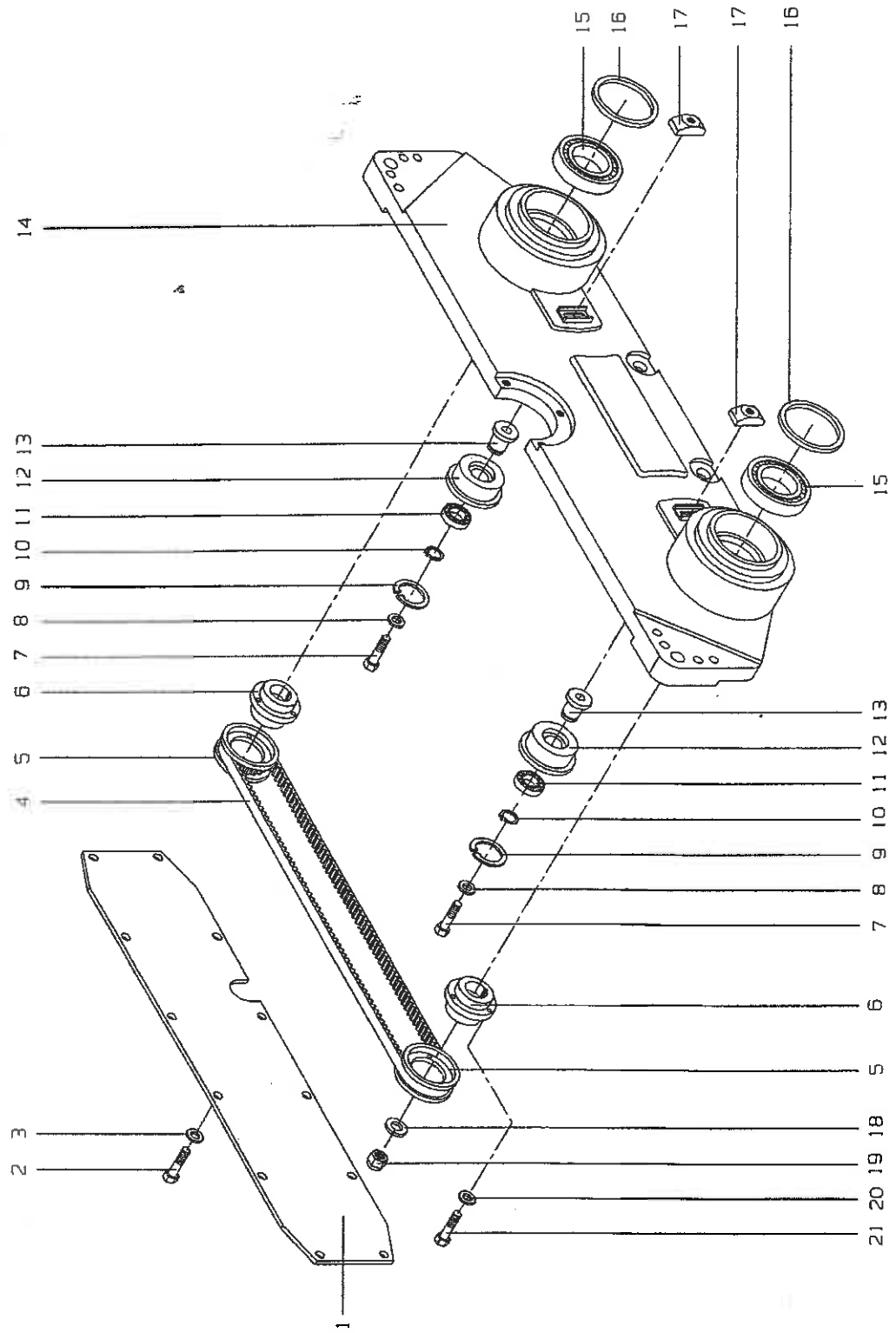


390 - 10**ROLLER DRUM**

390 - 10 - 1	Schnorr Washer	32	V15531016
390 - 10 - 2	Cyl. Roller Bearing	4	V15226241
390 - 10 - 3	Bearing Cover	4	V39020202
390 - 10 - 4	Hex Bolt	32	V17141016
390 - 10 - 5	Bearing Flange	2	V39010301
390 - 10 - 6	Schnorr Washer	24	V15530610
390 - 10 - 7	Hex Bolt	24	V17140624
390 - 10 - 8	Roller Drum Profiles	2	V39010100
390 - 10 - 9	Tightening Sleeve	3	V19150600
390 - 10 - 10	Bearing Flange	1	V39020201
390 - 10 - 11	Bearing Flange	1	V39010201
390 - 10 - 12	Vibrator Shaft Long	1	V39020409
390 - 10 - 13	Vibrator Shaft Short	1	V39020408
390 - 10 - 101	Roller Drum Smooth	2	V39011100

- 1) For HA 390P
- 2) For HA 390S

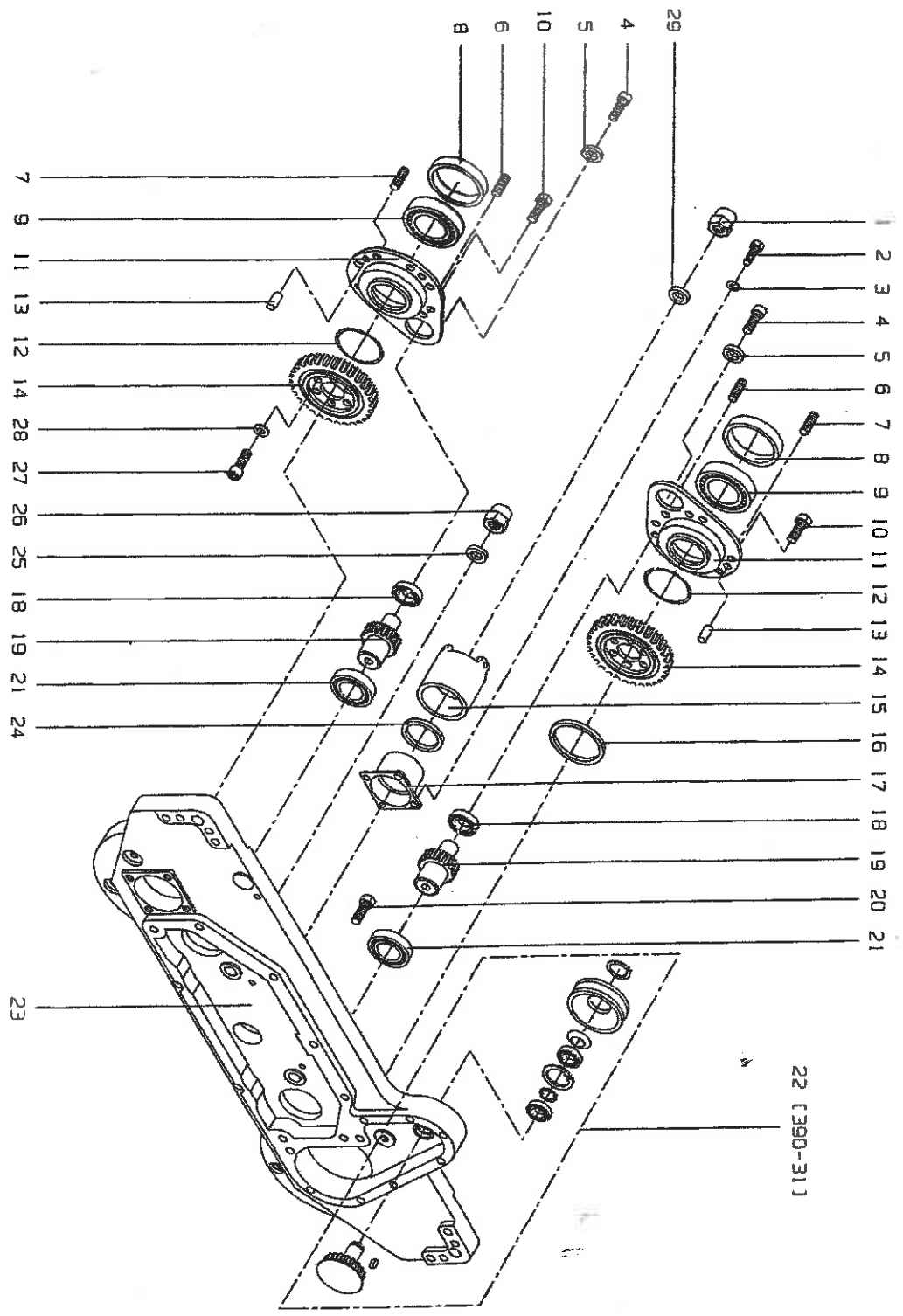
390 - 20 SIDEPLATE LEFTHAND



390 - 20**SIDEPLATE LEFTHAND**

390 - 20 - 1	Cover	1	V39080102
390 - 20 - 2	Hex Bolt	12	V17140624
390 - 20 - 3	Schnorr Washer	12	V15530610
390 - 20 - 4	T Belt	1	V16321212
390 - 20 - 5	T Belt Pulley	2	V39045702
390 - 20 - 6	Hub	2	V39045701
390 - 20 - 7	SHC Screw	2	V17231209
390 - 20 - 8	Schnorr Washer	2	V15531218
390 - 20 - 9	Inner Circlip	2	V19222500
390 - 20 - 10	Outer Circlip	2	V19211300
390 - 20 - 11	Ball Bearing	2	V15113505
390 - 20 - 12	Pulley	2	V39045501
390 - 20 - 13	Bushing	2	V39045502
390 - 20 - 14	Sideplate Small	1	V39030100
390 - 20 - 15	Cyl Roller Bearing	2	V15222322
390 - 20 - 16	Oil Seal	2	V19314612
390 - 20 - 17	Square Nut	2	V39045503
390 - 20 - 18	Flat Washer	2	V18511324
390 - 20 - 19	Nylock Nut	2	V18131218
390 - 20 - 20	Schnorr Washer	6	V15530610
390 - 20 - 21	Hex Bolt	6	V17140624

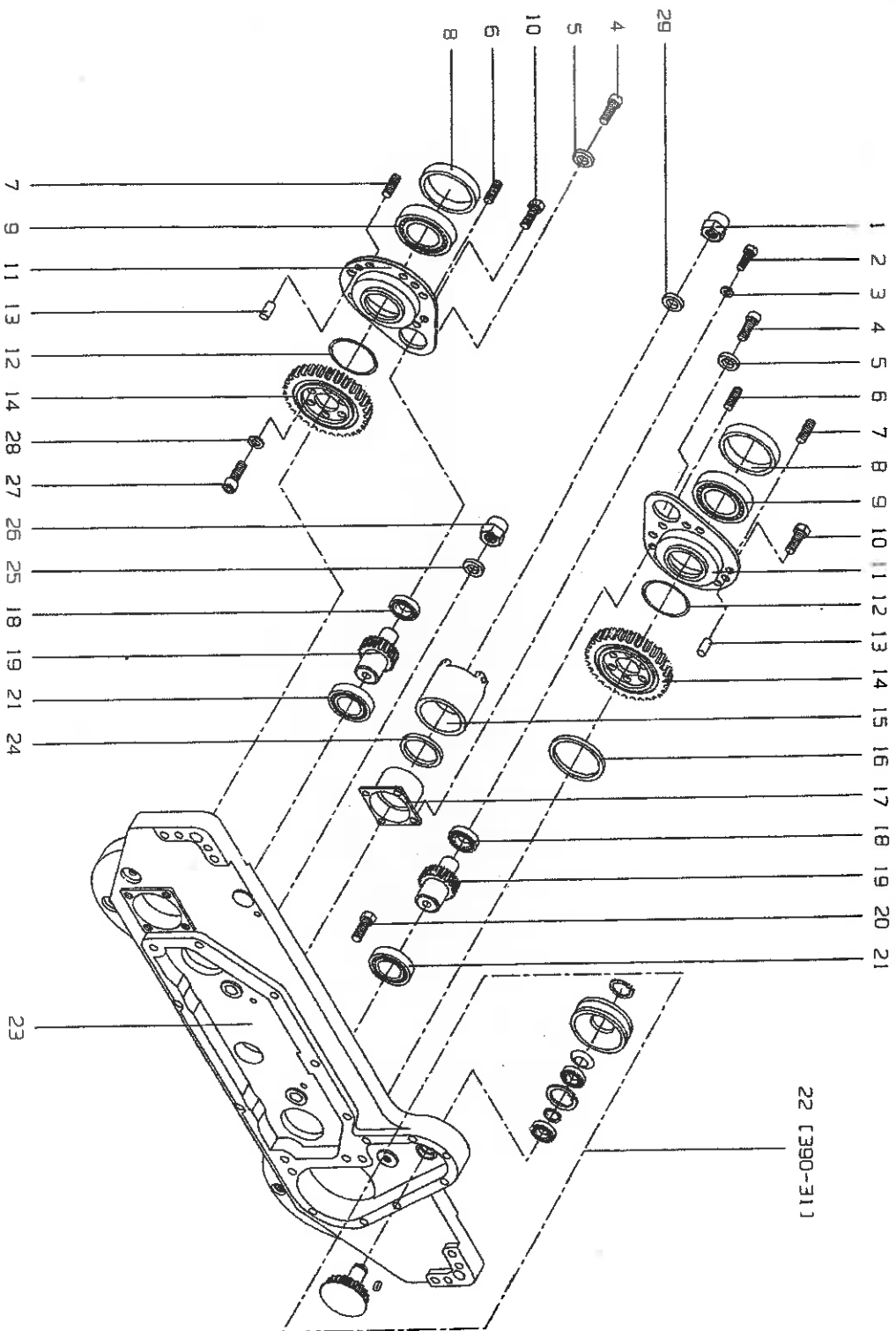
390 - 30 SIDEPLATE RIGHTHAND



390 - 30**SIDEPLATE RIGHTHAND**

390 - 30 - 1	Safety Nut	1	V18181161
390 - 30 - 2	SHC Screw	4	V17230605
390 - 30 - 3	Schnorr Washer	4	V15530610
390 - 30 - 4	SHC Screw	4	V17230605
390 - 30 - 5	Schnorr Washer	4	V15530610
390 - 30 - 6	Threaded Pin	4	V17540605
390 - 30 - 7	Threaded Pin	4	V17540804
390 - 30 - 8	Oil Seal	2	V19314612
390 - 30 - 9	Cyl Roller Bearing	2	V15222322
390 - 30 - 10	Hex Bolt	12	V17140824
390 - 30 - 11	Bearing Flange	2	V39040203
390 - 30 - 12	O Ring	2	V16220704
390 - 30 - 13	Notched Fitting Pin	2	V19131002
390 - 30 - 14	Gear	2	V39040308
390 - 30 - 15	Coupling Flange	1	V21030604
390 - 30 - 16	Oil Seal	1	V19314311
390 - 30 - 17	Cover	1	V39045207
390 - 30 - 18	Cyl Roller Bearing	2	V15222220
390 - 30 - 19	Pinion	2	V39040306
390 - 30 - 20	Threaded Pin	4	V17540804
390 - 30 - 21	Ball Bearing	2	V15113008
390 - 30 - 22	Vibration Drive Complete	1	V39045400
390 - 30 - 23	Sideplate Big	1	V39040100
390 - 30 - 24	Oil Seal	1	V19312403

390 - 30 SIDEPLATE RIGHTHAND



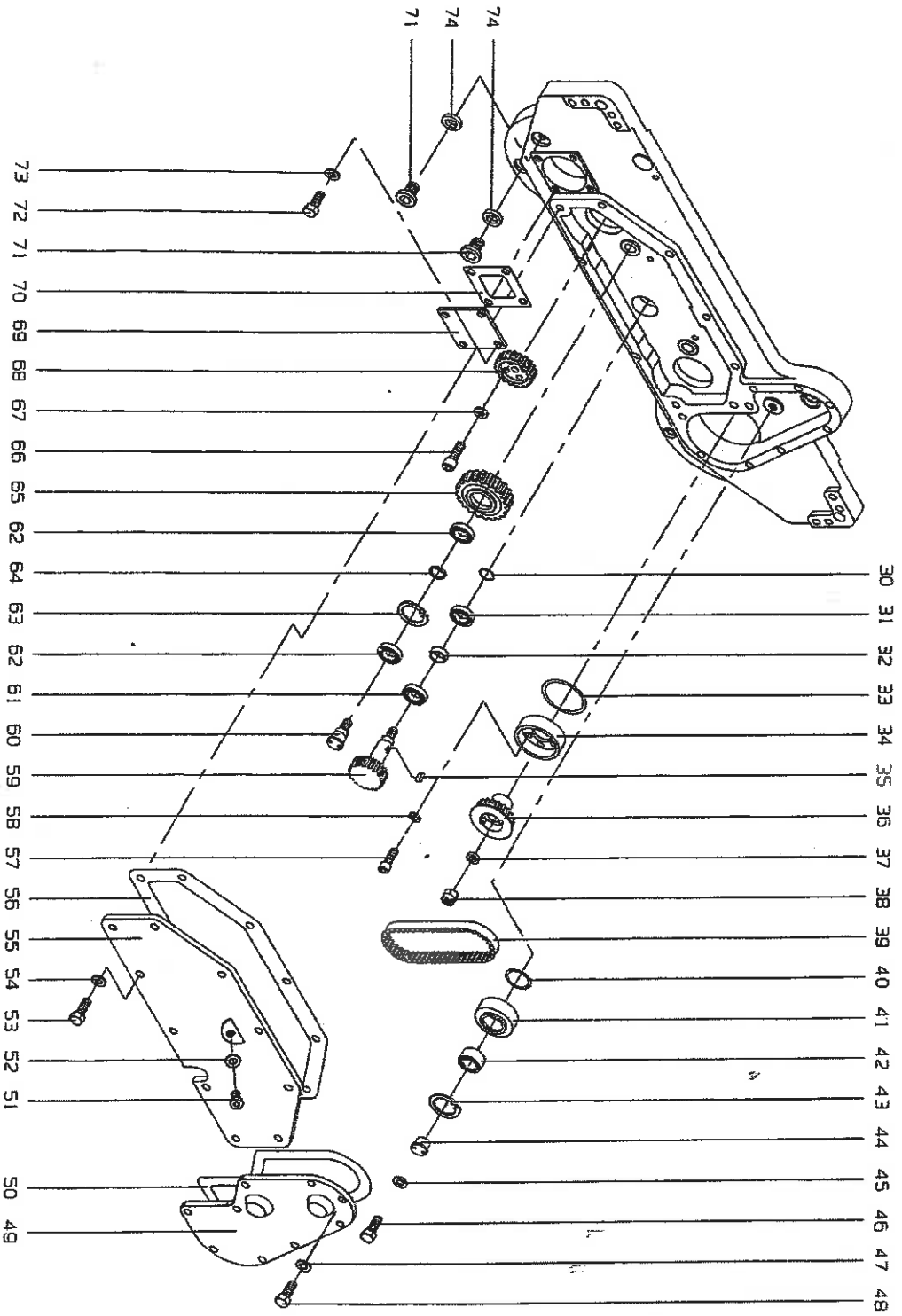
390 - 30

390 - 30 - 25	Flat Washer
390 - 30 - 26	Nylock Nut
390 - 30 - 27	SHC Screw
390 - 30 - 28	Schnorr Washer
390 - 30 - 29	Flat Washer

SIDEPLATE RIGHTHAND

2	V18511730
2	V18131621
6	V17231205
6	V15531218
1	V18511730

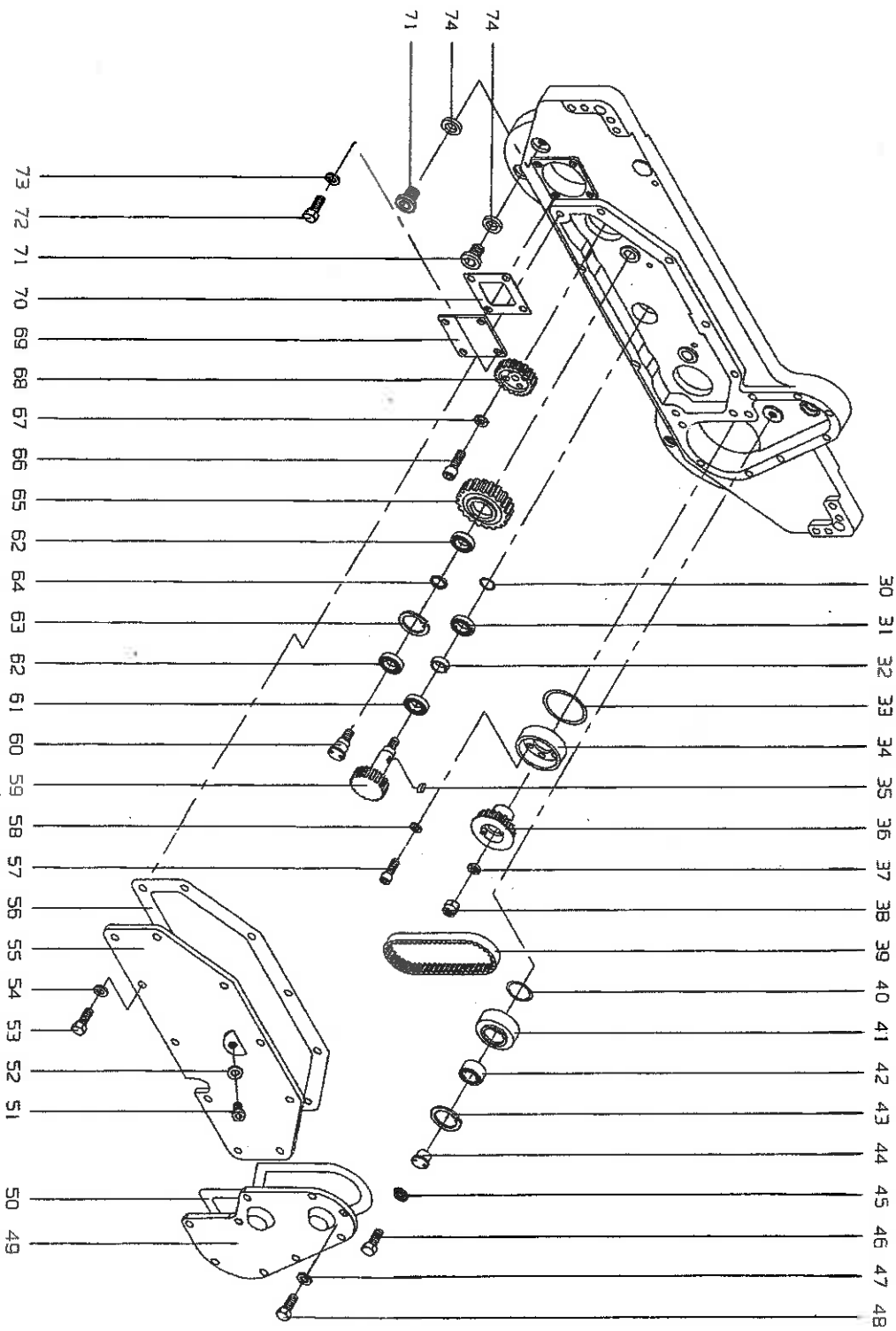
390 - 30 SIDEPLATE RIGHTHAND (Continued)



390 - 30**SIDEPLATE RIGHTHAND (Continued)**

390 - 30 - 30	O Ring	1	V16220255
390 - 30 - 31	Ball Bearing	1	V15114205
390 - 30 - 32	Distance Ring	1	V39045202
390 - 30 - 33	O Ring	1	V16220803
390 - 30 - 34	Ring	1	V39040109
390 - 30 - 35	Fitting Key	1	V19181702
390 - 30 - 36	T Belt Pulley	1	V39045704
390 - 30 - 37	Flat Washer	1	V18511324
390 - 30 - 38	Nylock Nut	1	V18131218
390 - 30 - 39	T Belt	1	V16321413
390 - 30 - 40	Supp Disc	1	V15521225
390 - 30 - 41	Pulley	1	V39045601
390 - 30 - 42	Ball Bearing	1	V15113306
390 - 30 - 43	Inner Circlip	1	V19223300
390 - 30 - 44	Gudgeon	1	V39045602
390 - 30 - 45	Schnorr Washer	1	V15531016
390 - 30 - 46	Hex Bolt	1	V17141029
390 - 30 - 47	Schnorr Washer	9	V15530610
390 - 30 - 48	Hex Bolt	9	V17140616

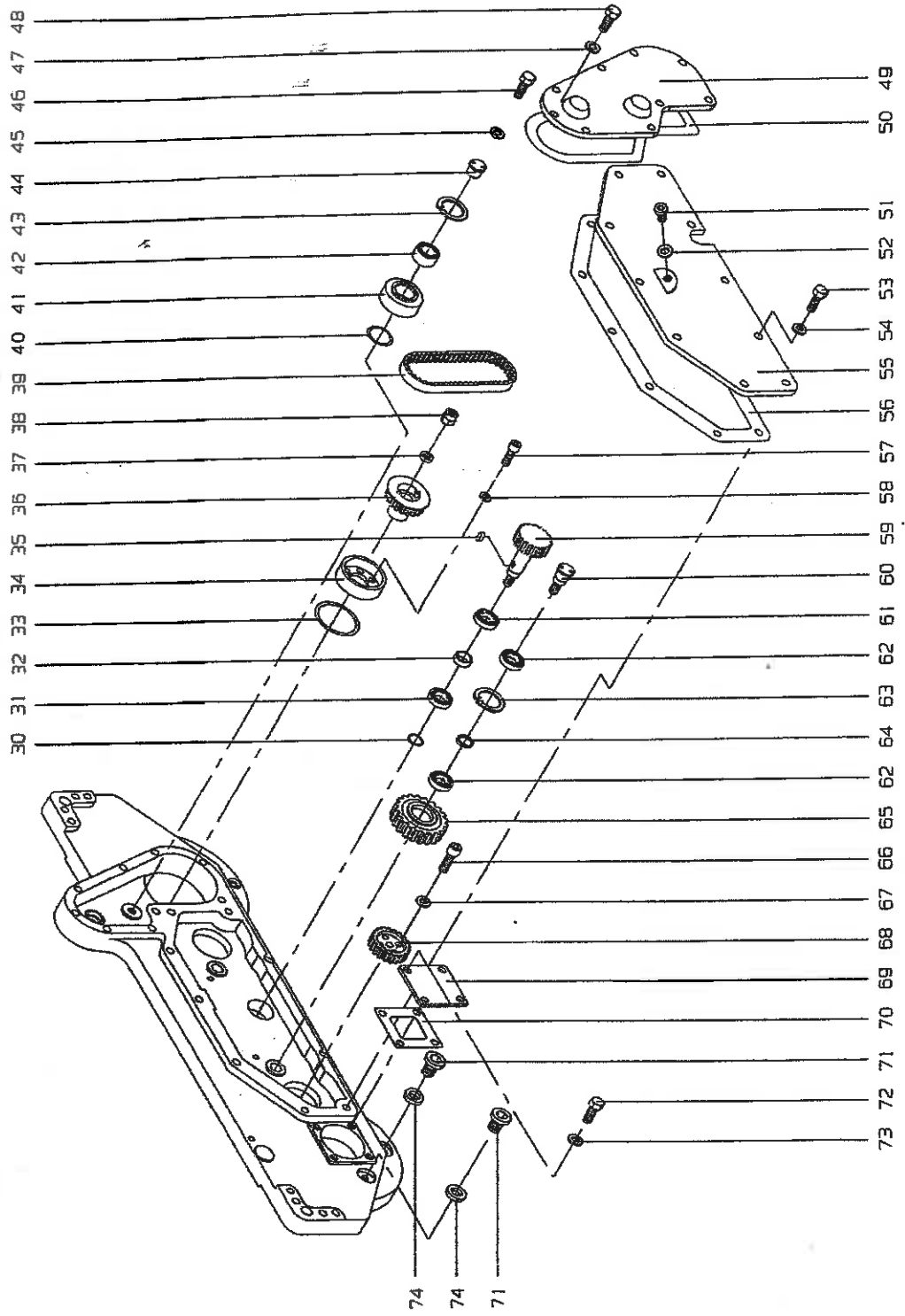
390 - 30 SIDEPLATE RIGHTHAND (Continued)



390 - 30**SIDEPLATE RIGHTHAND (Continued)**

390 - 30 - 49	Cover	1	V39080103
390 - 30 - 50	Gasket	1	V39080109
390 - 30 - 52	Ufit Ring	1	V16211422
390 - 30 - 53	Hex Bolt	10	V17140624
390 - 30 - 54	Schnorr Washer	10	V15530610
390 - 30 - 55	Cover	1	V39080101
390 - 30 - 56	Gasket	1	V39080107
390 - 30 - 57	SHC Screw	6	V17231209
390 - 30 - 58	Schnorr Washer	6	V15531218
390 - 30 - 59	Pinion Shaft	1	V39045201
390 - 30 - 60	Axle	2	V39045103
390 - 30 - 61	Ball Bearing	1	V15114005
390 - 30 - 62	Ball Bearing	4	V15117006
390 - 30 - 63	Inner Circlip	2	V19223300
390 - 30 - 64	Supp Disc	2	V15521225
390 - 30 - 65	Gear	2	V39045101
390 - 30 - 66	SHC Screw	8	V17231009
390 - 30 - 67	Schnorr Washer	8	V15531016
390 - 30 - 68	Gear	2	V39045001
390 - 30 - 69	Cover	1	V39080104
390 - 30 - 70	Gasket	1	V39080108

390 - 30 SIDEPLATE RIGHTHAND (Continued)

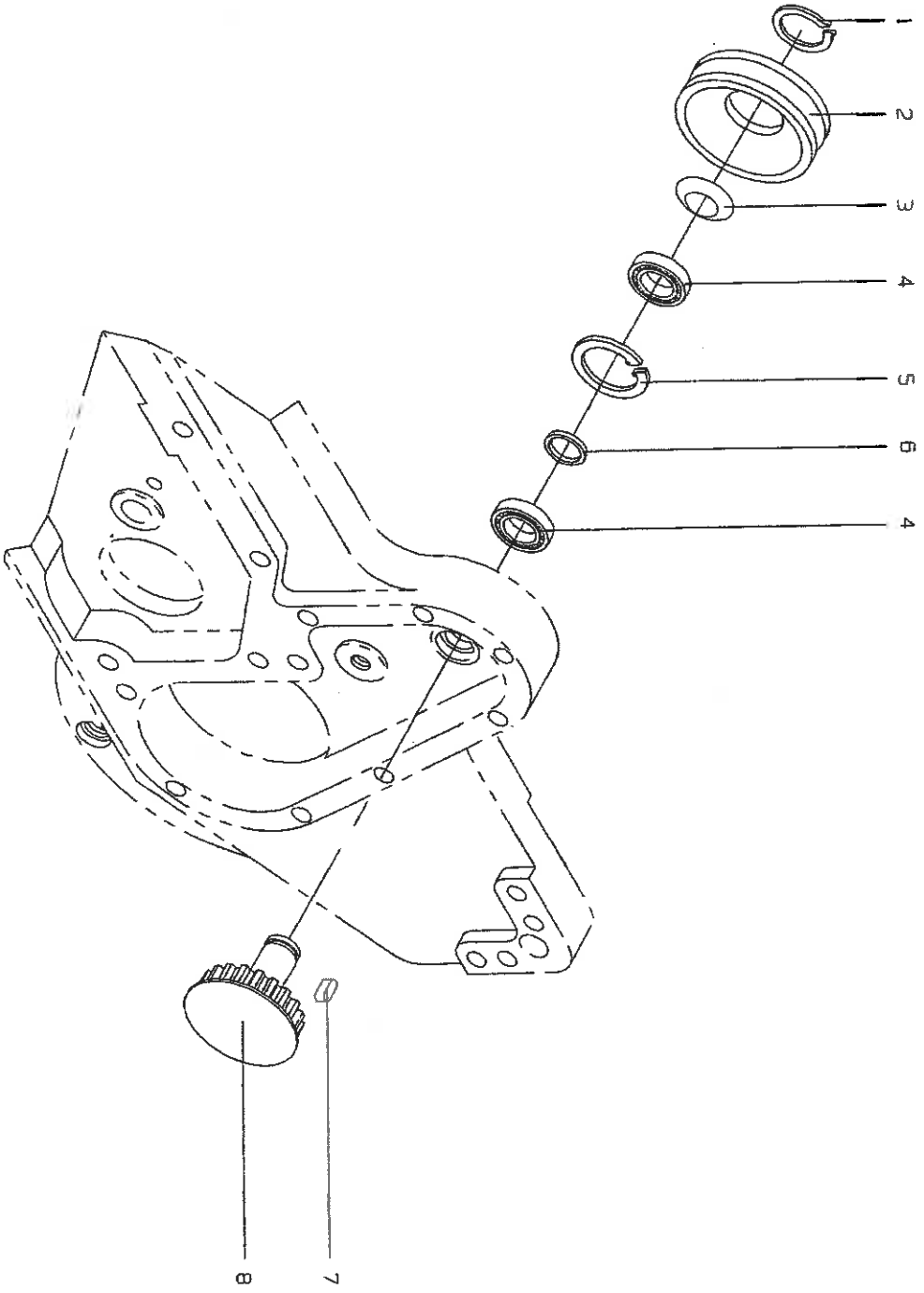


390 - 30

SIDEPLATE RIGHTHAND (Continued)

390 - 30 - 71	Screw Plug	4	V17621415
390 - 30 - 72	Hex Bolt	4	V17140624
390 - 30 - 73	Schnorr Washer	4	V15531610
390 - 30 - 74	Usit Ring	4	V16211422

390 - 31 VIBRATION DRIVE

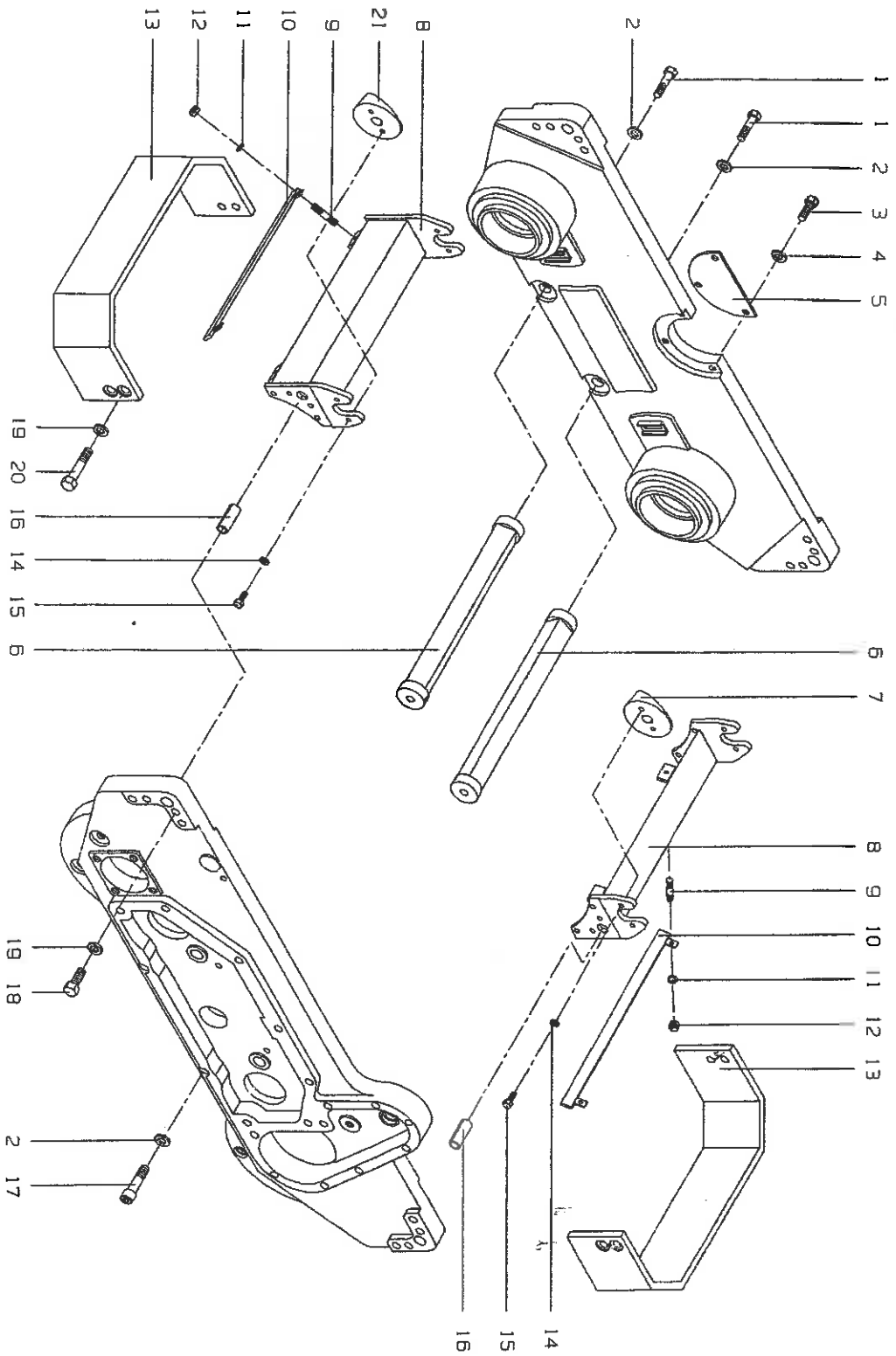


390 - 31

VIBRATION DRIVE

390 - 31 - 1	Outer Circlip	1	V19210800
390 - 31 - 2	V Belt Pulley	1	V39045402
390 - 31 - 3	Nilos Ring	1	V15333224
390 - 31 - 4	Ball Bearing	2	V15113704
390 - 31 - 5	Inner Circlip	1	V19222100
390 - 31 - 6	Supp Disc	1	V15520620
390 - 31 - 7	Fitting Key	1	V19181302
390 - 31 - 8	T Belt Pulley	1	V39045403

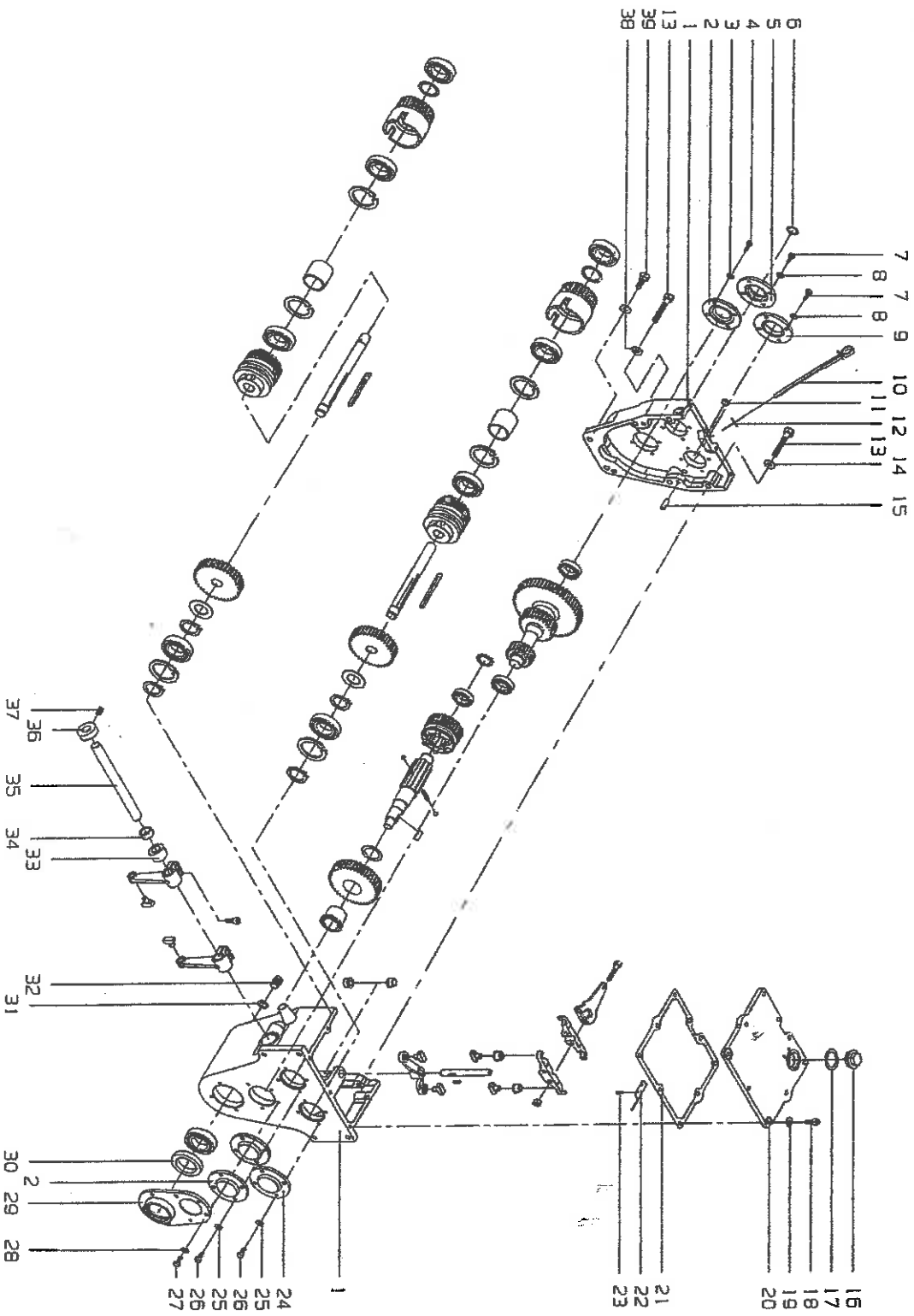
390 - 40 CROSS MEMBERS



390 - 40**CROSS MEMBERS**

390 - 40 - 1	Hex Bolt	2	V17141224
390 - 40 - 2	Schnorr Washer	4	V15531218
390 - 40 - 3	Hex Bolt	3	V17140624
390 - 40 - 4	Schnorr Washer	3	V15530610
390 - 40 - 5	Cover	1	V39080105
390 - 40 - 6	Inner Scraper	2	V39070100
390 - 40 - 7	Tapered Disc	2	V39060304
390 - 40 - 8	Outer Cross Piece	2	V39070503
390 - 40 - 9	Stud	4	V17581008
390 - 40 - 10	Outer Scraper	2	V39070300
390 - 40 - 11	Disc	4	V18752105
390 - 40 - 12	Nylock Nut	4	V18131016
390 - 40 - 13	Bumper Bracket	2	V39080110
390 - 40 - 14	Schnorr Washer	8	V15531016
390 - 40 - 15	Hex Bolt	8	V17141024
390 - 40 - 16	Tightening Sleeve	4	V19162512
390 - 40 - 17	SHC Screw	2	V17231201
390 - 40 - 18	Hex Bolt	8	V17141232
390 - 40 - 19	Schnorr Washer	16	V15531218
390 - 40 - 20	Hex Bolt	8	V17141236
390 - 40 - 21	Tapered Disc	2	V39060305

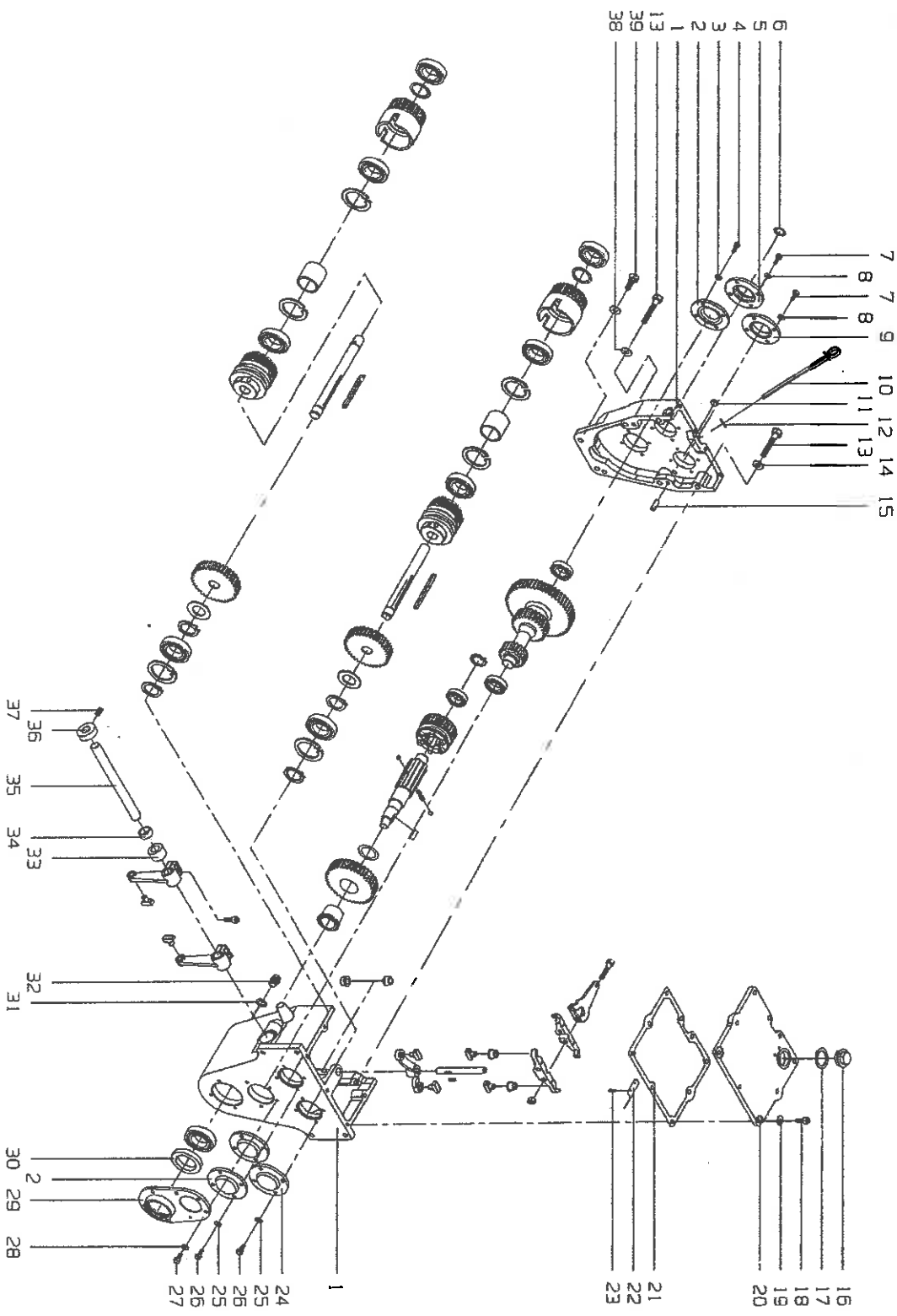
390 - 50 GEARBOX



390 - 50**GEARBOX**

2)	390 - 50 - 1	Gearbox Housing Complete	1	V25050200
3)	390 - 50 - 1	Gearbox Housing Complete	1	V25050220
	390 - 50 - 2	Bearing Cover	2	V25050404
	390 - 50 - 3	Schnorr Washer	4	V15530610
	390 - 50 - 4	Hex Bolt	4	V17140624
	390 - 50 - 5	Bearing Cover	1	V25050602
	390 - 50 - 6	Oil Seal	1	V19311911
	390 - 50 - 7	Hex Bolt	8	V17140624
	390 - 50 - 8	Schnorr Washer	8	V15530610
	390 - 50 - 9	Bearing Cover	1	V25050506
2)	390 - 50 - 10	Oil Dipstick	1	V25050803
3)	390 - 50 - 10	Oil Dipstick	1	V25050235
	390 - 50 - 11	Washer	2	V18520014
	390 - 50 - 12	V Ring	1	V16235008
	390 - 50 - 13	Hex Bolt	4	V17131028
	390 - 50 - 14	Schnorr Washer	2	V15531016
1)	390 - 50 - 15	Notched Fitting Pin	2	V19130804
	390 - 50 - 16	Screw Plug	1	V21050406
	390 - 50 - 17	Ufit Ring	1	V16213139
	390 - 50 - 18	Hex Bolt	9	V17140824
	390 - 50 - 19	Schnorr Washer	9	V15530813
	390 - 50 - 20	Top Cover	1	V25050801
	390 - 50 - 21	Gasket	1	V25050802

390 - 50 GEARBOX



390 - 50**GEARBOX**

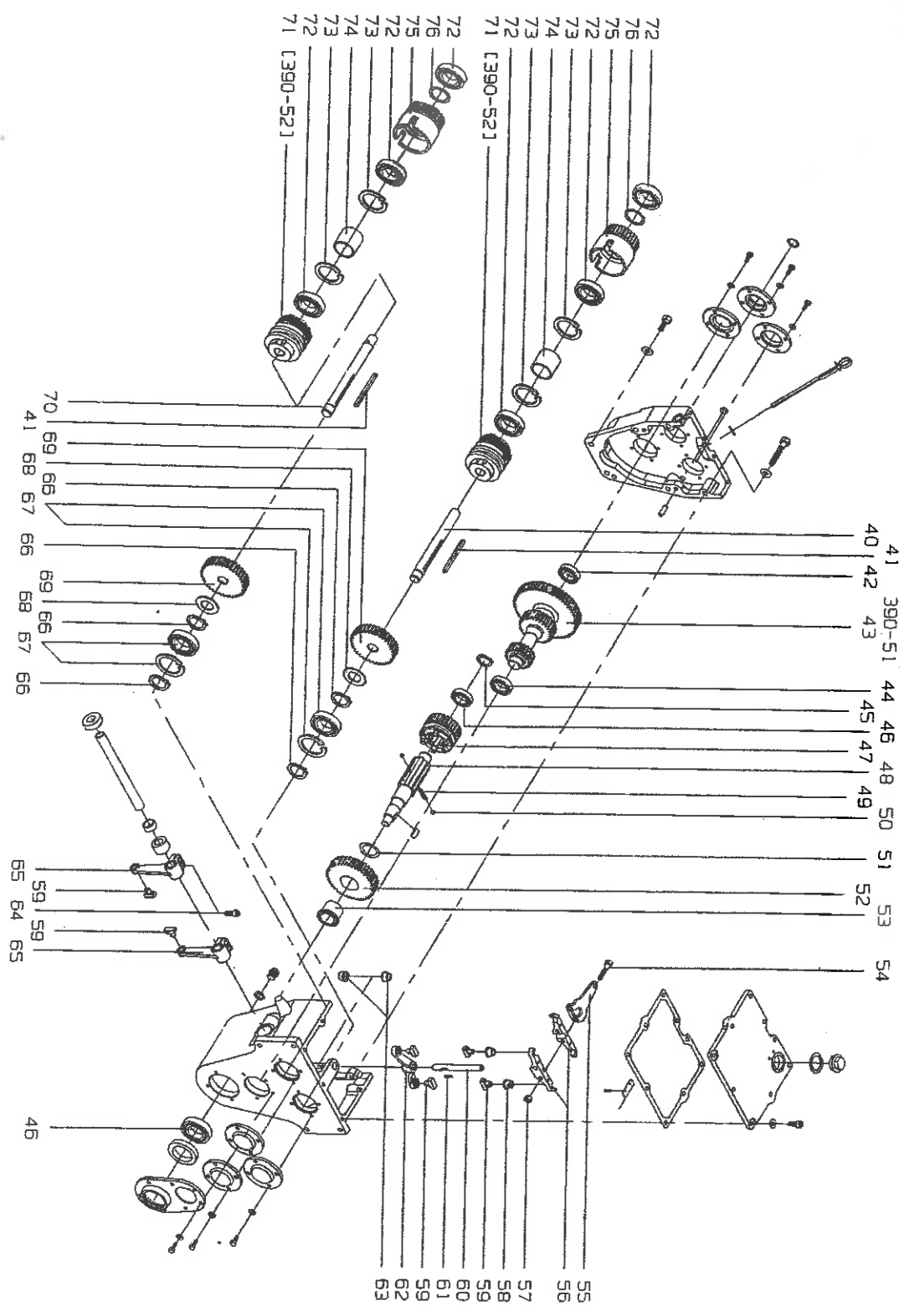
390 - 50 - 22	Plate	1	V25050805
390 - 50 - 23	Rivet	2	V19915349
390 - 50 - 24	Bearing Cover	2	V25050506
390 - 50 - 25	Schnorr Washer	8	V15530610
390 - 50 - 26	Hex Bolt	8	V17140624
390 - 50 - 27	Hex Bolt	7	V17140624
390 - 50 - 28	Schnorr Washer	7	V15530610
390 - 50 - 29	Bearing Cover	1	V25050403
390 - 50 - 30	Oil Seal	1	V19312403
390 - 50 - 31	Usit Ring	1	V16211422
390 - 50 - 32	Screw Plug	1	V17631415
390 - 50 - 33	Bush	2	V25050102
390 - 50 - 34	Oil Seal	2	V19311211
390 - 50 - 35	Shaft	1	V25050712
390 - 50 - 36	Set Collar	2	V25050713
390 - 50 - 37	Threaded Pin	2	V17760804
390 - 50 - 38	Usit Ring	4	V16211018
390 - 50 - 39	Hex Bolt	2	V17141024

1) Part of V25050200 / V25050220

2) Up to Gearbox S/N 390 - 0165

3) From Gearbox S/N 390 - 0166

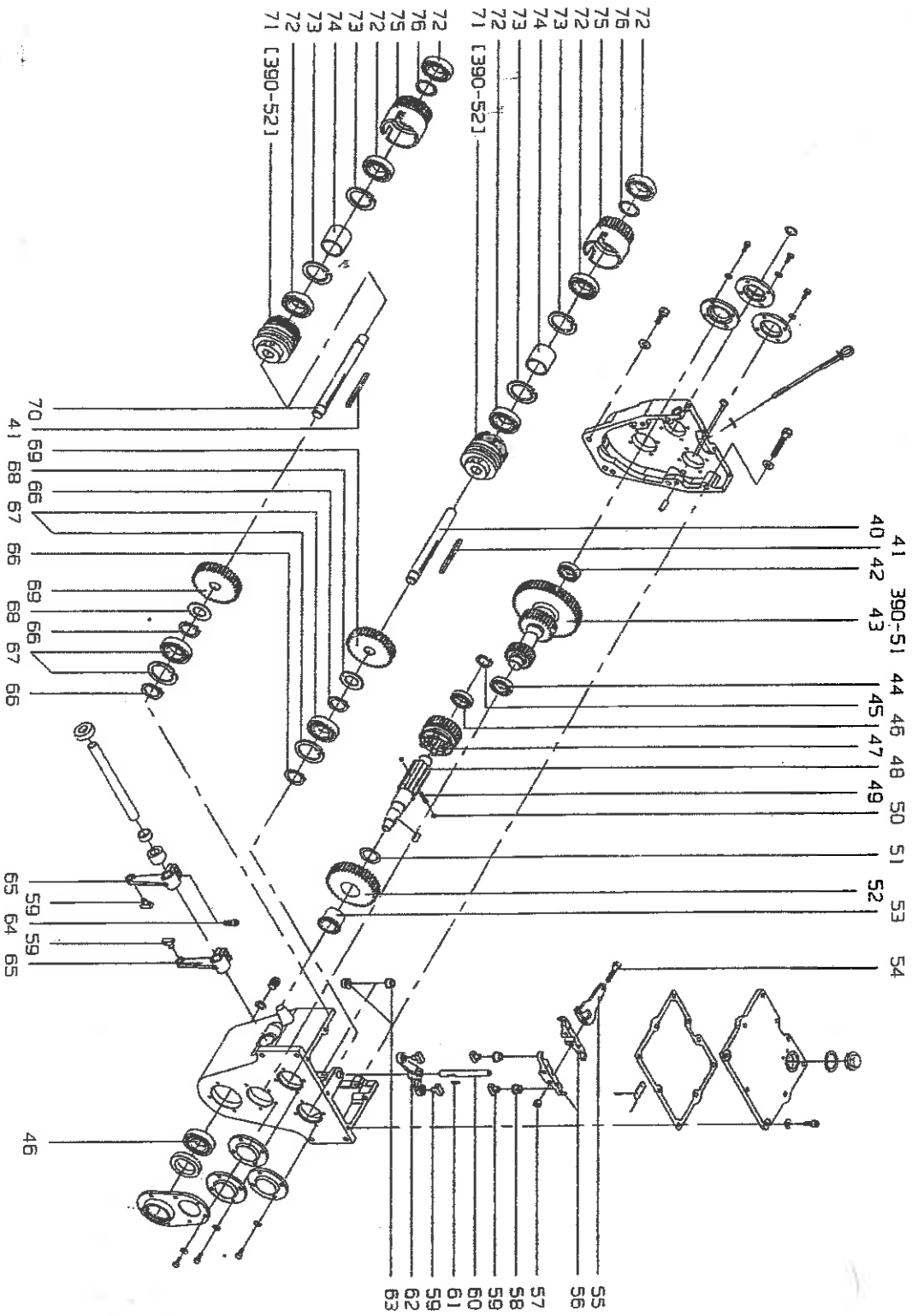
390 - 50 GEARBOX (Continued)



390 - 50**GEARBOX (Continued)**

390 - 50 - 40	Clutch Shaft	1	V25050507
390 - 50 - 41	Fitting Key	2	V19181218
390 - 50 - 42	Ball Bearing	1	V15114005
390 - 50 - 43	Pinion Shaft Complete	1	V25050407
390 - 50 - 44	Cyl Roller Bearing	1	V15522230
390 - 50 - 45	Outer Circlip	1	V19211300
390 - 50 - 46	Ball Bearing	2	V15115005
390 - 50 - 47	Sliding Gear	1	V25050302
390 - 50 - 48	Splined Shaft	1	V25050301
390 - 50 - 49	Spring	1	V25052504
390 - 50 - 50	Ball	2	V15340080
390 - 50 - 51	Supp Disc	1	V15621225
390 - 50 - 52	Dog Clutch	1	V25051300
390 - 50 - 53	Bush for Dog Clutch	1	V25051302
390 - 50 - 54	SHC Screw	2	V17230829
390 - 50 - 55	Lever	1	V25050708
390 - 50 - 56	Lever	1	V25050706
390 - 50 - 57	Nylock Nut	2	V18130813
390 - 50 - 58	Collar Bush	2	V25050707
390 - 50 - 59	Sliding Block	6	V25050703
390 - 50 - 60	Shaft	1	V25050705
390 - 50 - 61	Fitting Key	1	V19180405

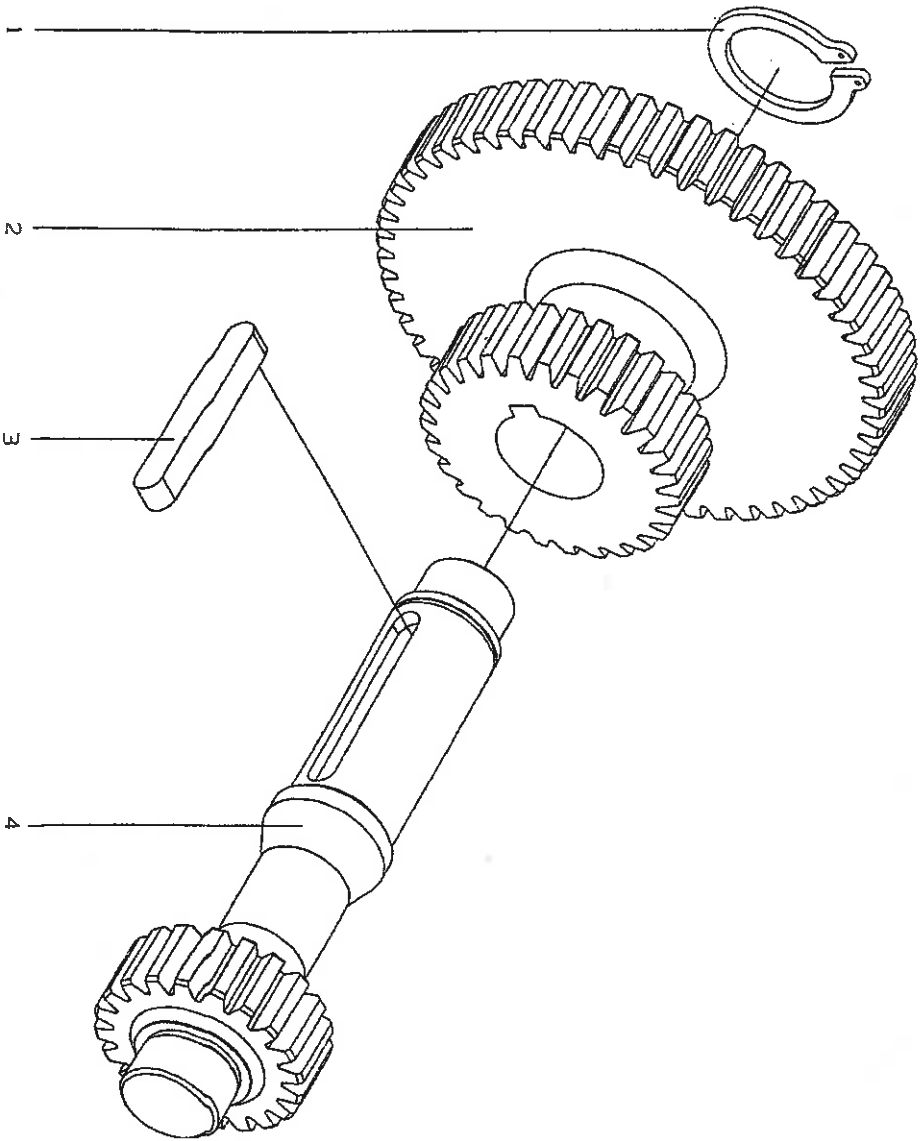
390 - 50 GEARBOX (Continued)



390 - 50**GEARBOX (Continued)**

390 - 50 - 62	Clutch Lever	1	V25050704
390 - 50 - 63	Bush	2	V25050103
390 - 50 - 64	SHC Screw	4	V17230809
390 - 50 - 65	Gearshift Lever	2	V25050715
390 - 50 - 66	Outer Circlip	4	V19210800
390 - 50 - 67	Ball Bearing	2	V15114204
390 - 50 - 68	Supp Disc	2	V25050508
390 - 50 - 69	Gear	2	V25050505
390 - 50 - 70	Clutch Shaft	1	V39050602
390 - 50 - 71	Disc Clutch Complete	2	V15622100
390 - 50 - 72	Ball Bearing	6	V15114004
390 - 50 - 73	Inner Circlip	4	V19222500
390 - 50 - 74	Distance Ring	2	V25050504
390 - 50 - 75	Clutch Housing	2	V25050503
390 - 50 - 76	Supp Disc	2	V15520620

250 - 51 PINION SHAFT



250 - 51

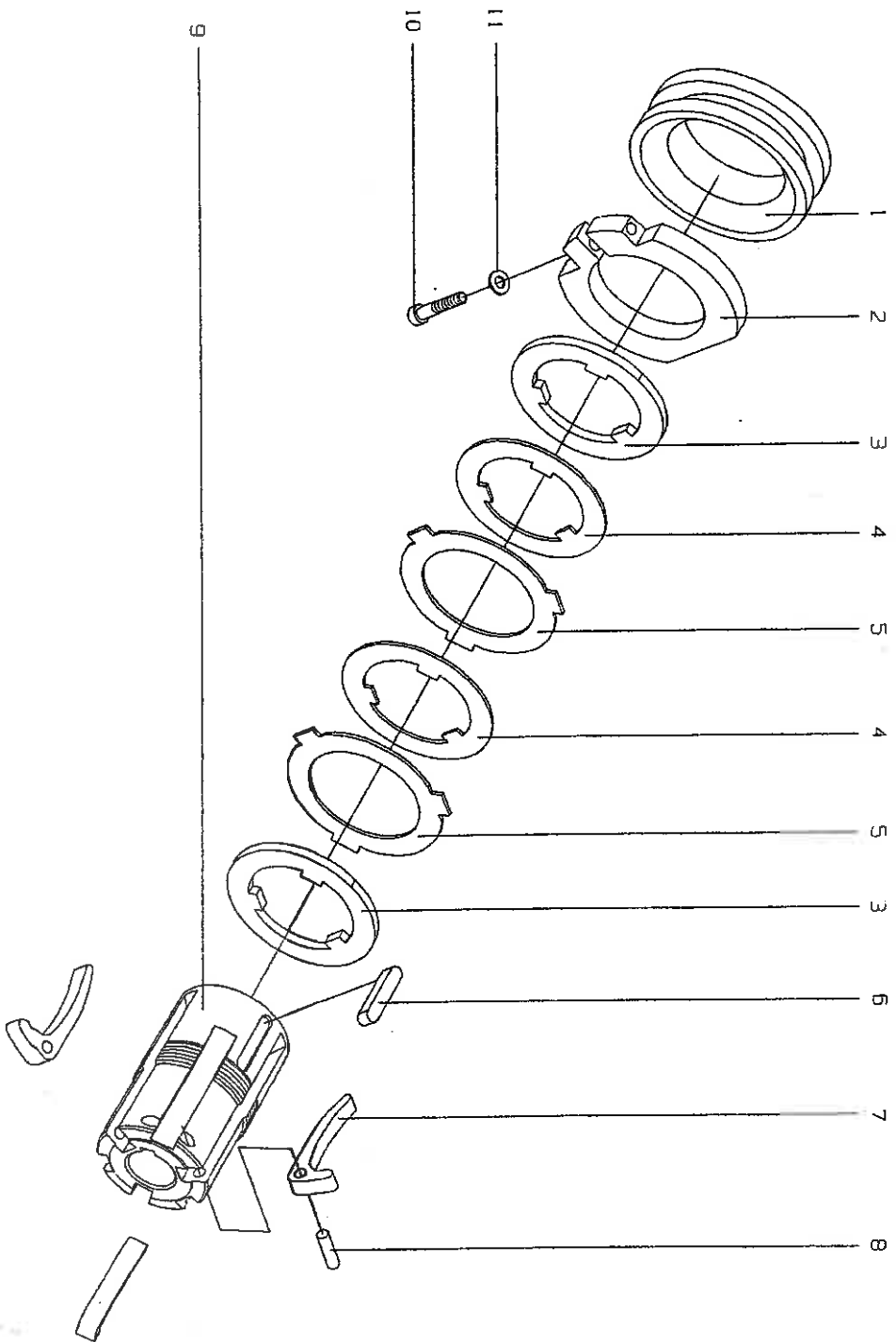
250 - 51 - 1 Outer Circlip
250 - 51 - 2 Double Gear
250 - 51 - 3 Fitting Key
250 - 51 - 4 Pinion Shaft

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1

PINION SHAFT

V19211800
V25050402
V19181612
V25050401

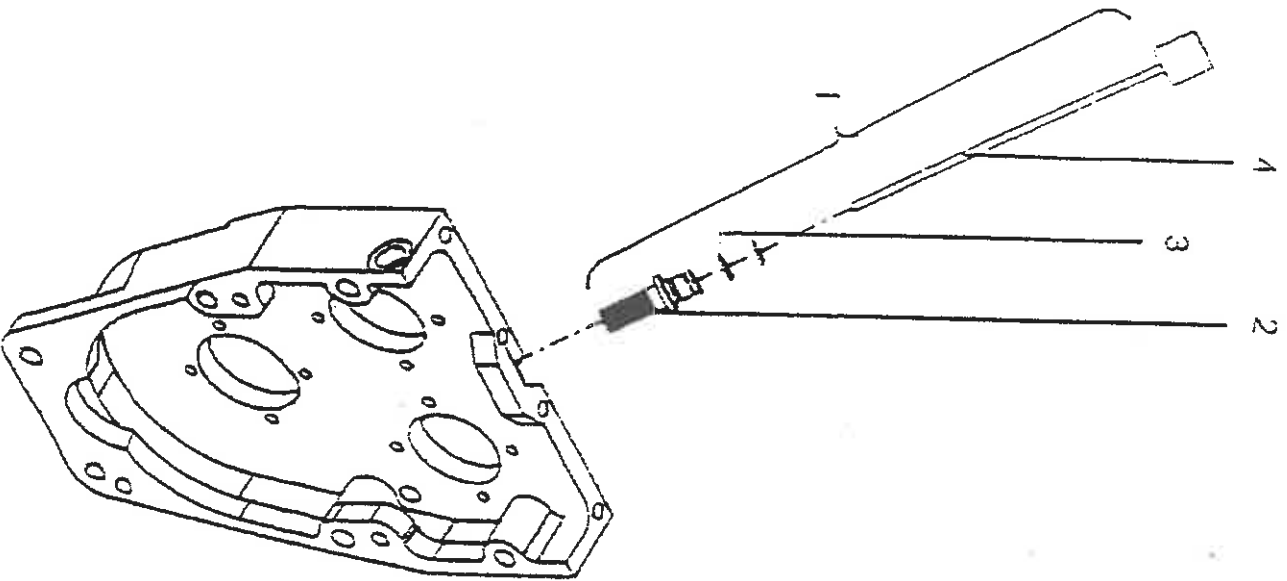
250 - 52 DISC CLUTCH



250 - 52 - 52**DISC CLUTCH**

250 - 52 - 1	Sliding Ring	1	V15632011
250 - 52 - 2	Tightening Nut	1	V15631110
250 - 52 - 3	Thrust Disc	2	V15635010
250 - 52 - 4	Inner Disc	6	V15634011
250 - 52 - 5	Outer Disc	6	V15633011
250 - 52 - 6	Fitting Key	1	V19181208
250 - 52 - 7	Lever	3	V15636020
250 - 52 - 8	Lever Pin	3	V15637020
250 - 52 - 9	Disc Support	1	V15630011
250 - 52 - 10	SHC Screw	1	V17230525
250 - 52 - 11	Schnorr Washer	1	V15530509

250 - 53 DIPSTICK MODIFICATION

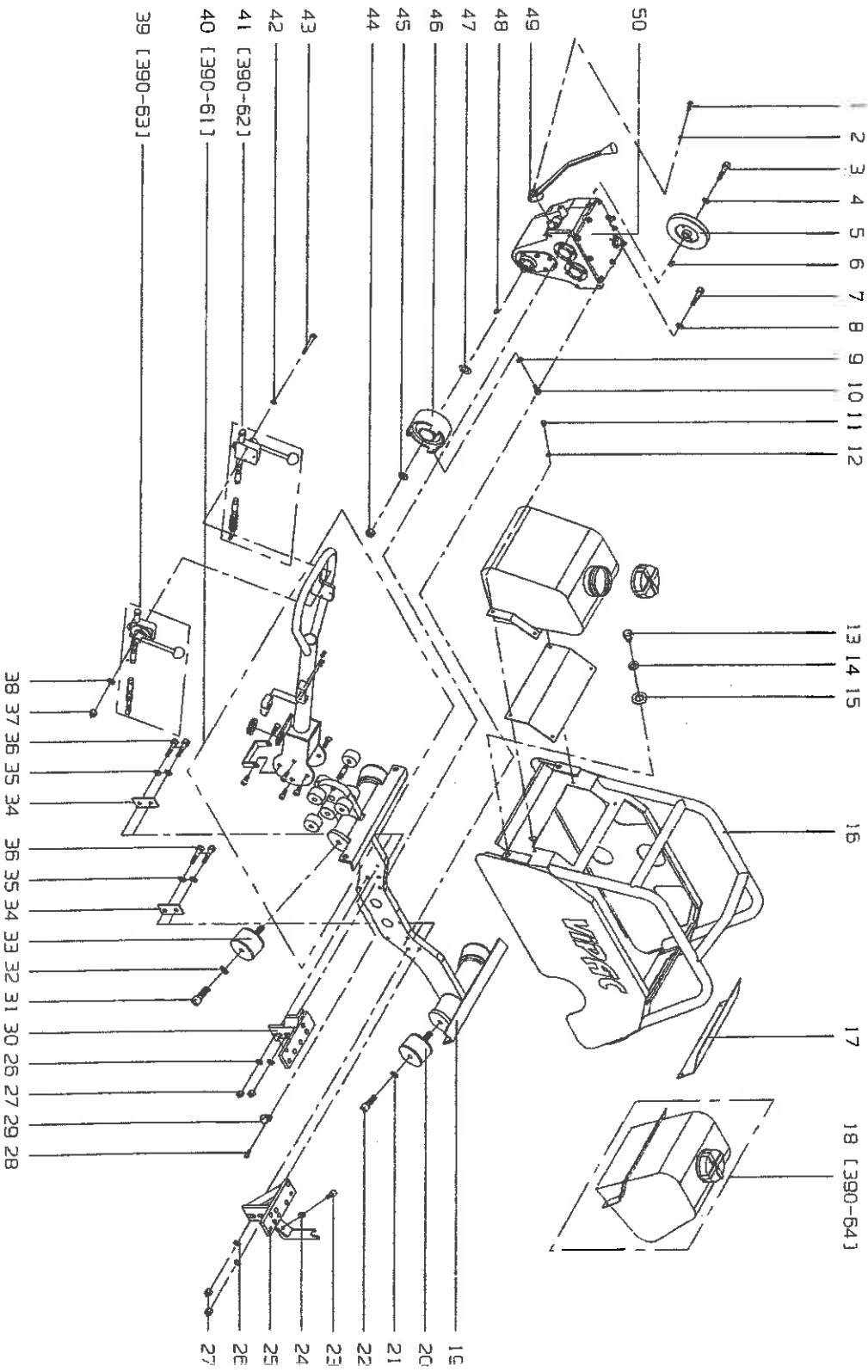


250 - 53

DIPSTICK MODIFICATION

250 - 53 - 1	Modification Complete	1	V25050230
250 - 53 - 2	Insert	1	V25050232
250 - 53 - 3	O Ring	2	V16220091
250 - 53 - 4	Oil Dipstick	1	V25050235

390 - 60 FRAME & GEARBOX



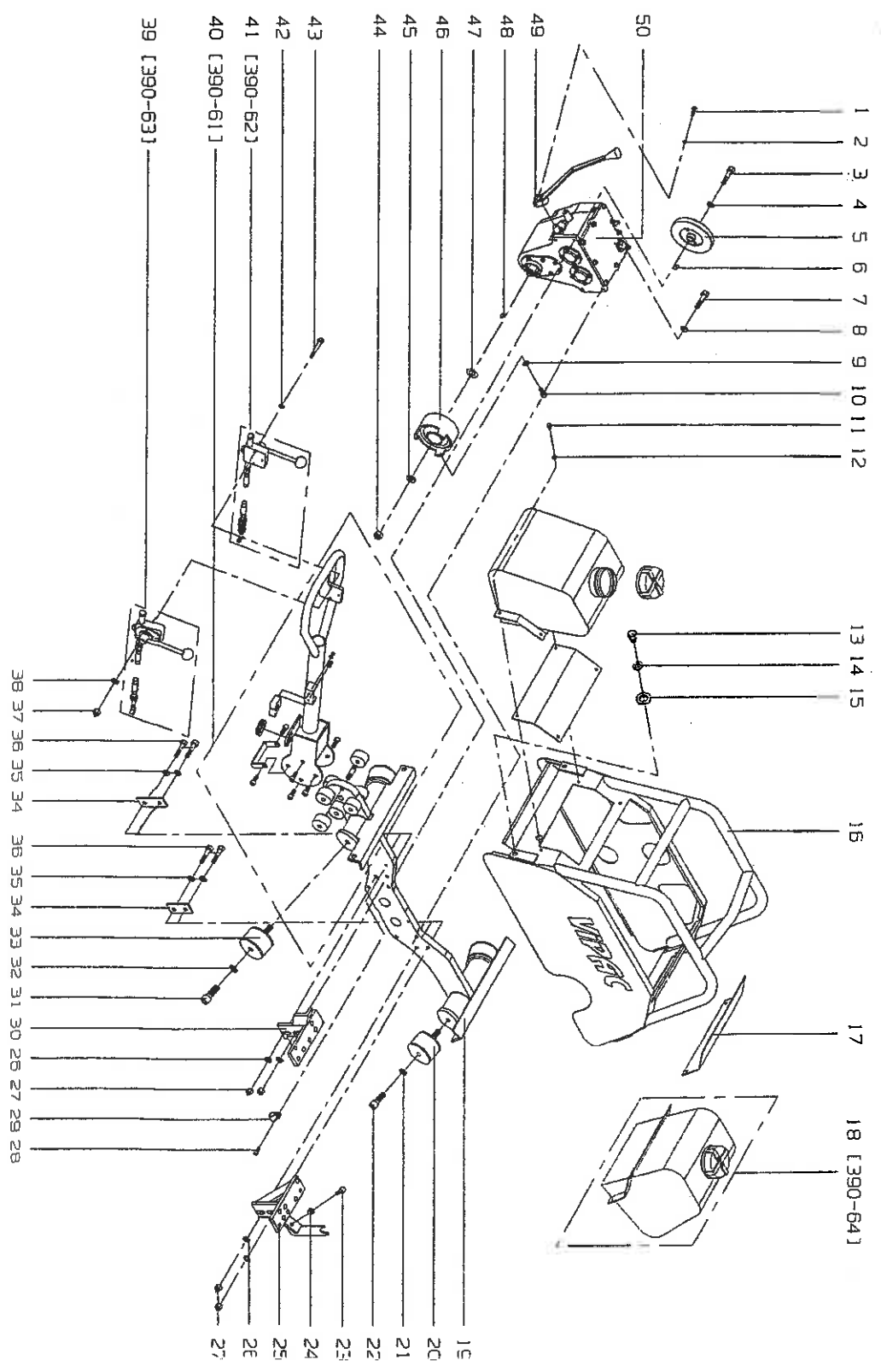
390 - 60**FRAME & GEARBOX**

390 - 60 - 1	Hex Bolt	1	V17141032
390 - 60 - 2	Schnorr Washer	1	V15531016
390 - 60 - 3	Hex Bolt	1	V17141016
390 - 60 - 4	Disc	1	V18752105
390 - 60 - 5	V Belt Pulley	1	V39050902
390 - 60 - 6	Tightening Sleeve	1	V19150600
390 - 60 - 7	Hex Bolt	4	V17131012
390 - 60 - 8	Schnorr Washer	4	V15531016
390 - 60 - 9	Schnorr Washer	3	V15531016
390 - 60 - 10	Hex Bolt	3	V17141016
390 - 60 - 11	Hex Bolt	8	V17140824
390 - 60 - 12	Flat Washer	8	V18621084
390 - 60 - 13	Hex Bolt	4	V17141636
390 - 60 - 14	Schnorr Washer	4	V15531624
390 - 60 - 15	Flat Washer	4	V18511730
390 - 60 - 16	Lifting Hood	1	V39080301
1) 390 - 60 - 17	Cover	2	V39001010
2) 390 - 60 - 18	Water Tank Complete	2	V39001000

1) For HA 390P.

2) For HA 390S

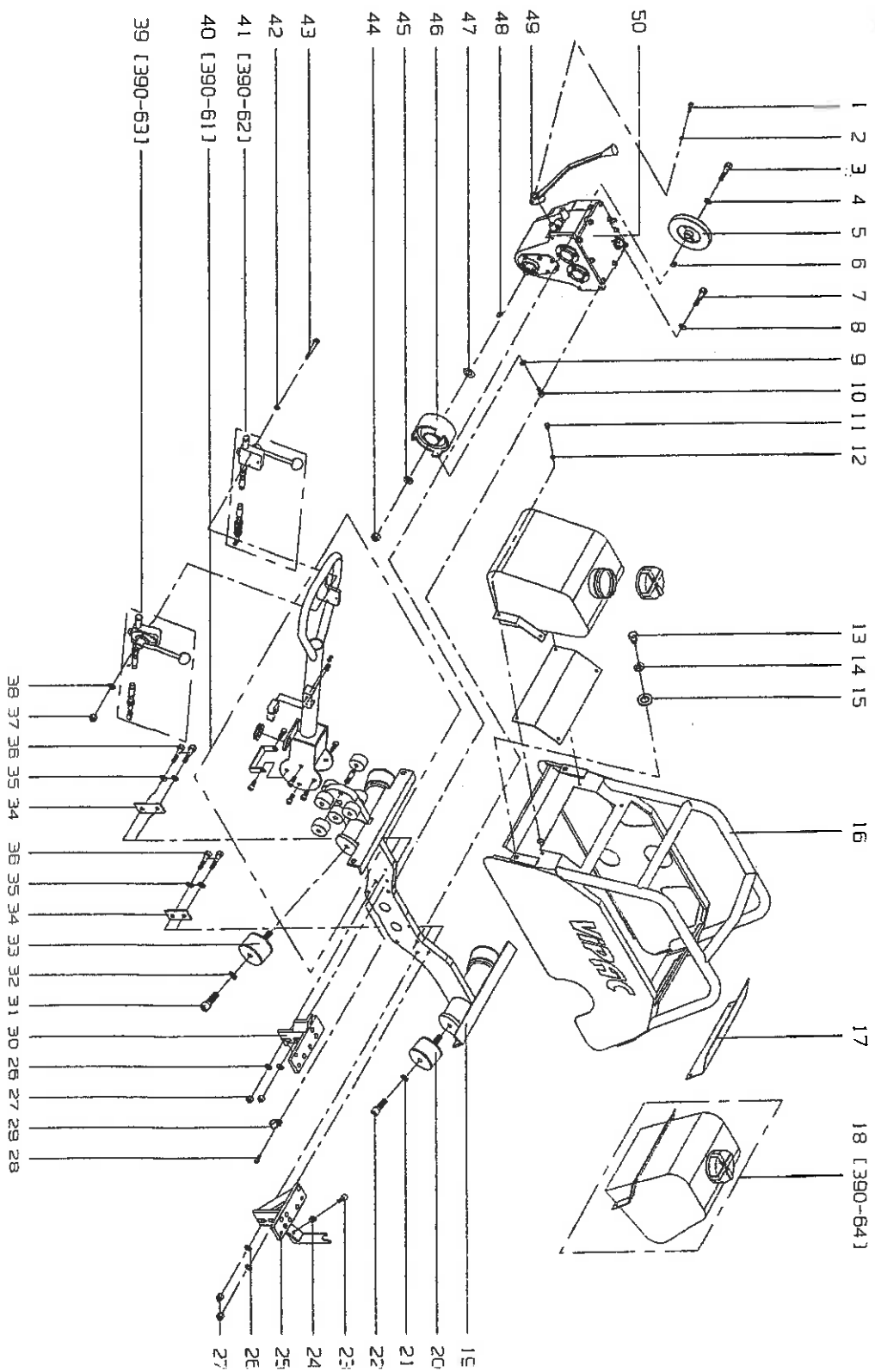
390 - 60 FRAME & GEARBOX



390 - 60**FRAME & GEARBOX**

390 - 60 - 19	Frame	1	V39060100
390 - 60 - 20	Rubber Buffer	2	V16127813
390 - 60 - 21	Schnorr Washer	2	V15531218
390 - 60 - 22	SHC Screw	2	V17231201
390 - 60 - 23	Hex Bolt	2	V17141032
390 - 60 - 24	Hex Nut	2	V18111015
390 - 60 - 25	Engine Holder Front	1	V39060204
390 - 60 - 26	Schnorr Washer	4	V15531218
390 - 60 - 27	Nylock Nut	4	V18131218
390 - 60 - 28	Hex Bolt	2	V17140816
390 - 60 - 29	Tube Clip	2	V15551908
390 - 60 - 30	Engine Holder Rear	1	V39060205
390 - 60 - 31	SHC Screw	2	V17231601
390 - 60 - 32	Schnorr Washer	2	V15531624
390 - 60 - 33	Rubber Buffer	2	V16128813
390 - 60 - 34	Square Plate	2	V39060201
390 - 60 - 35	Disc	4	V18752130
390 - 60 - 36	Hex Bolt	4	V17131220
390 - 60 - 37	Nylock Nut	3	V18130611
390 - 60 - 38	Flat Washer	3	V18510612
390 - 60 - 39	Drive Control Complete	1	V39060610
390 - 60 - 40	Steering Rod Complete	1	V39060400
390 - 60 - 41	Gas Control Complete	1	V39060620

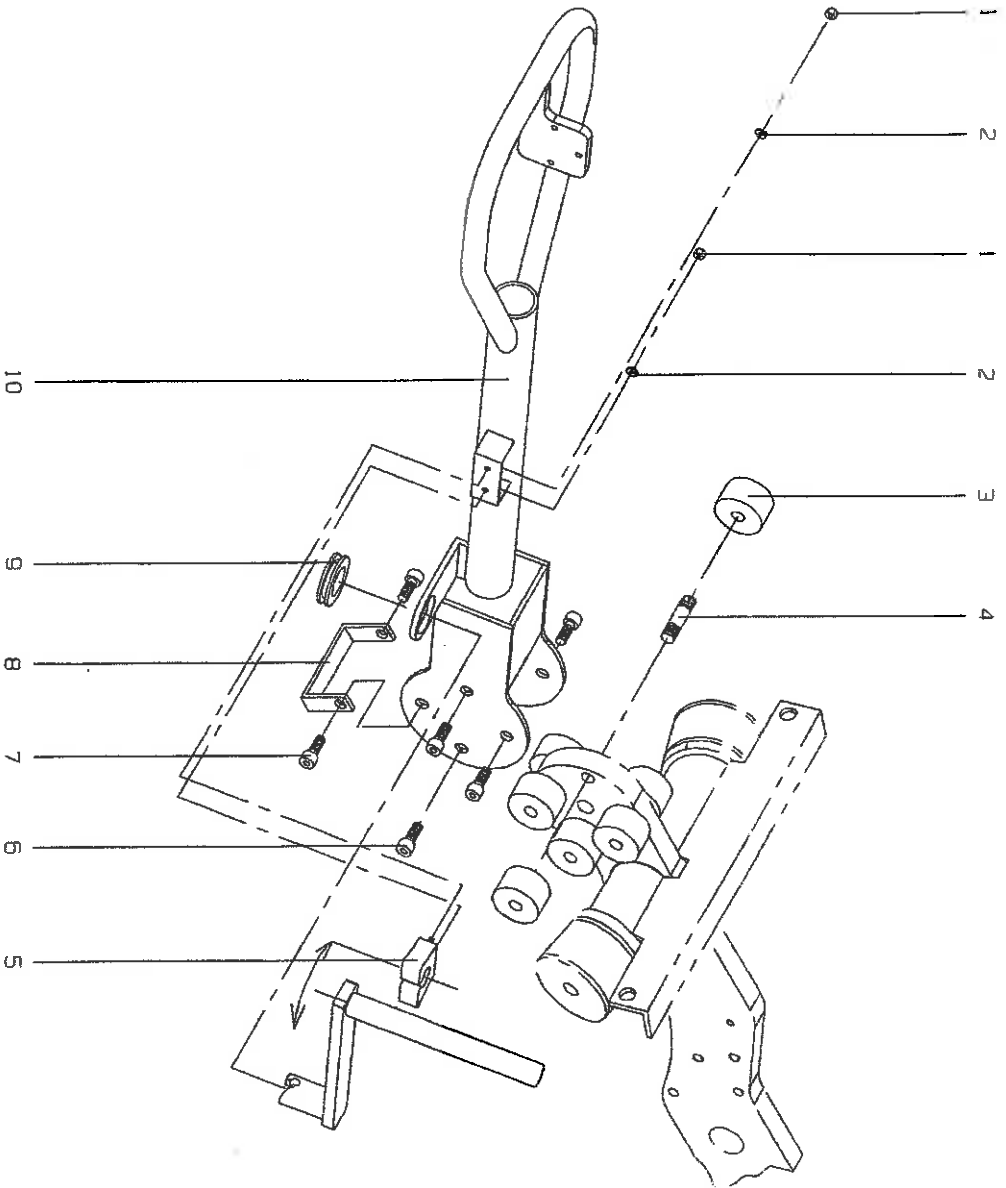
390 - 60 FRAME & GEARBOX



390 - 60**FRAME & GEARBOX**

390 - 60 - 42	Flat Washer	3	V18510612
390 - 60 - 43	Hex Bolt	3	V17130656
390 - 60 - 44	Safety Nut	1	V18181161
390 - 60 - 45	Disc	1	V18711730
390 - 60 - 46	Rubber Coupling	1	V39050801
390 - 60 - 47	O Ring	1	V16220254
390 - 60 - 48	Fitting Key	1	V19181702
390 - 60 - 49	Gear Lever	1	V25050912
390 - 60 - 50	Gearbox	1	V39050000

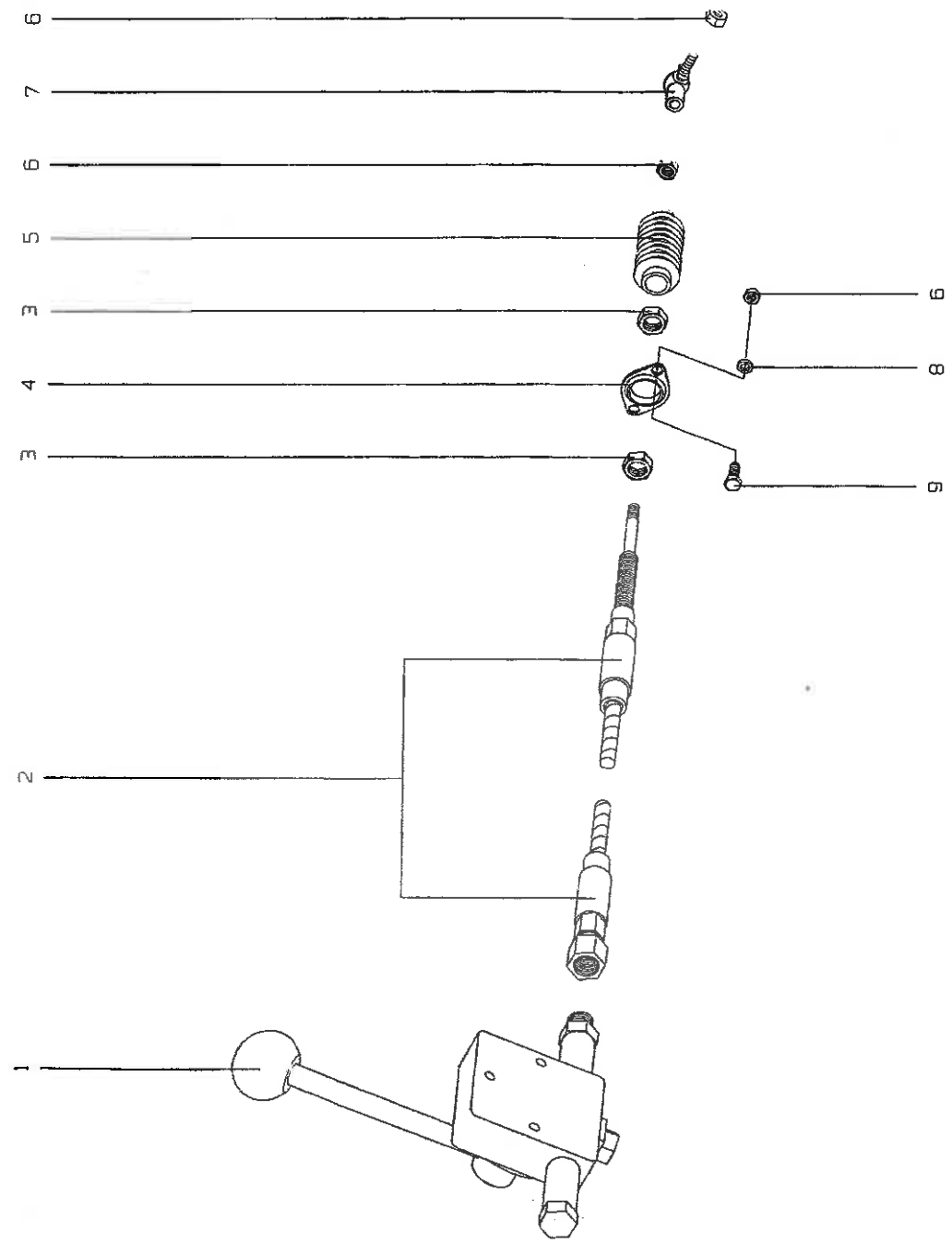
390 - 61 STEERING ROD



390 - 61**STEERING ROD**

390 - 61 - 1	Nylock Nut	2	V18130611
390 - 61 - 2	Schnorr Washer	2	V15530610
390 - 61 - 3	Rubber Buffer	8	V39060402
390 - 61 - 4	Stud	4	V39060403
390 - 61 - 5	Clamping Device	1	V21081303
390 - 61 - 6	SHC Screw	6	V17231200
390 - 61 - 7	SHC Screw	2	V17231201
390 - 61 - 8	Bracket	1	V39060404
390 - 61 - 9	Grommet	1	V21045402
390 - 61 - 10	Steering Rod	1	V39060401

390 - 62 GAS CONTROL

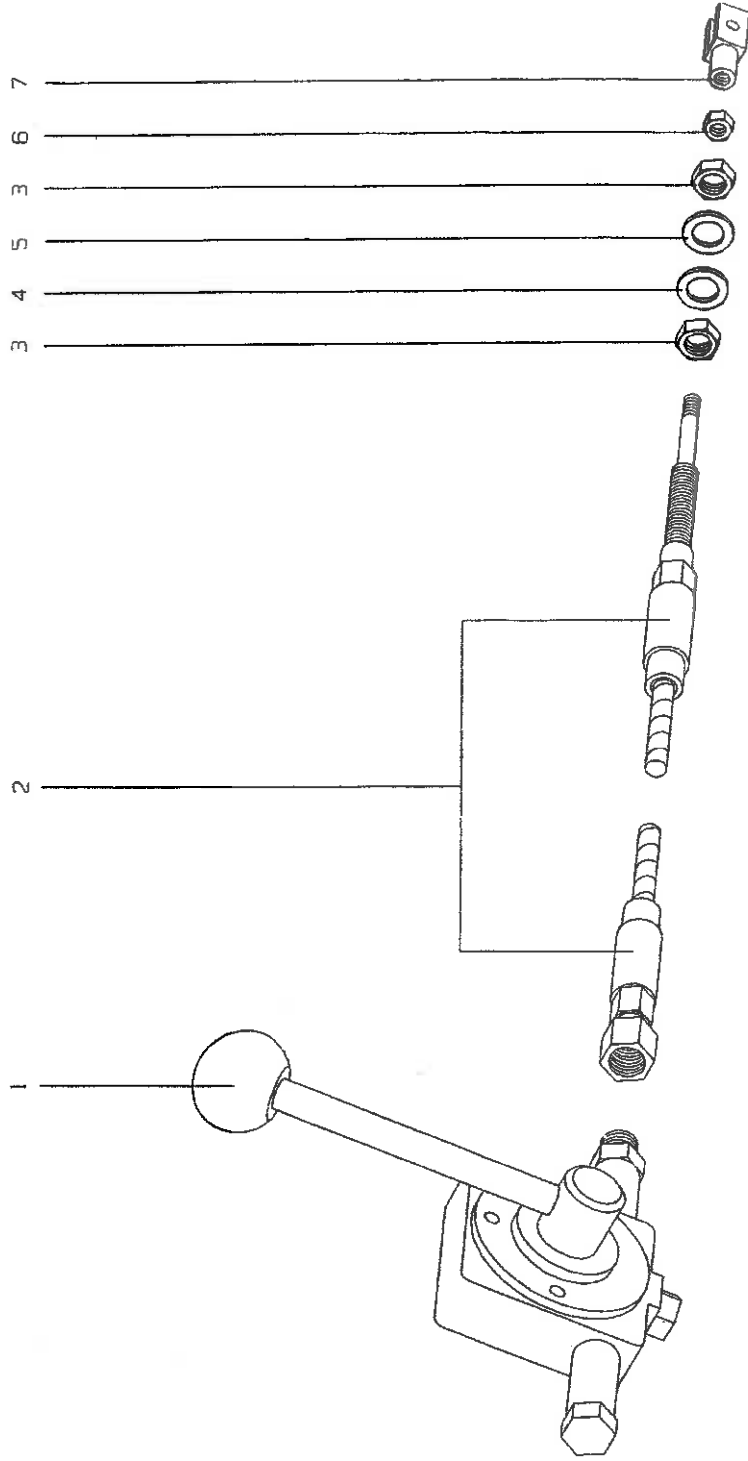


GAS CONTROL

390 - 62 - 62

390 - 62 - 1	Control Box G/C	1	V21068411
390 - 62 - 2	Actuation G/C	1	V39068011
390 - 62 - 3	Hex Nut	2	V15568382
390 - 62 - 4	Ball Joint	1	V15568750
390 - 62 - 5	Concertina Wall	1	V15568850
390 - 62 - 6	Hex Nut	1	V18110508
390 - 62 - 7	Angular Joint	1	V19812100
390 - 62 - 8	Spring Washer	2	V18530509
390 - 62 - 9	Hex Bolt	2	V17140524

390 - 63 DRIVE CONTROL

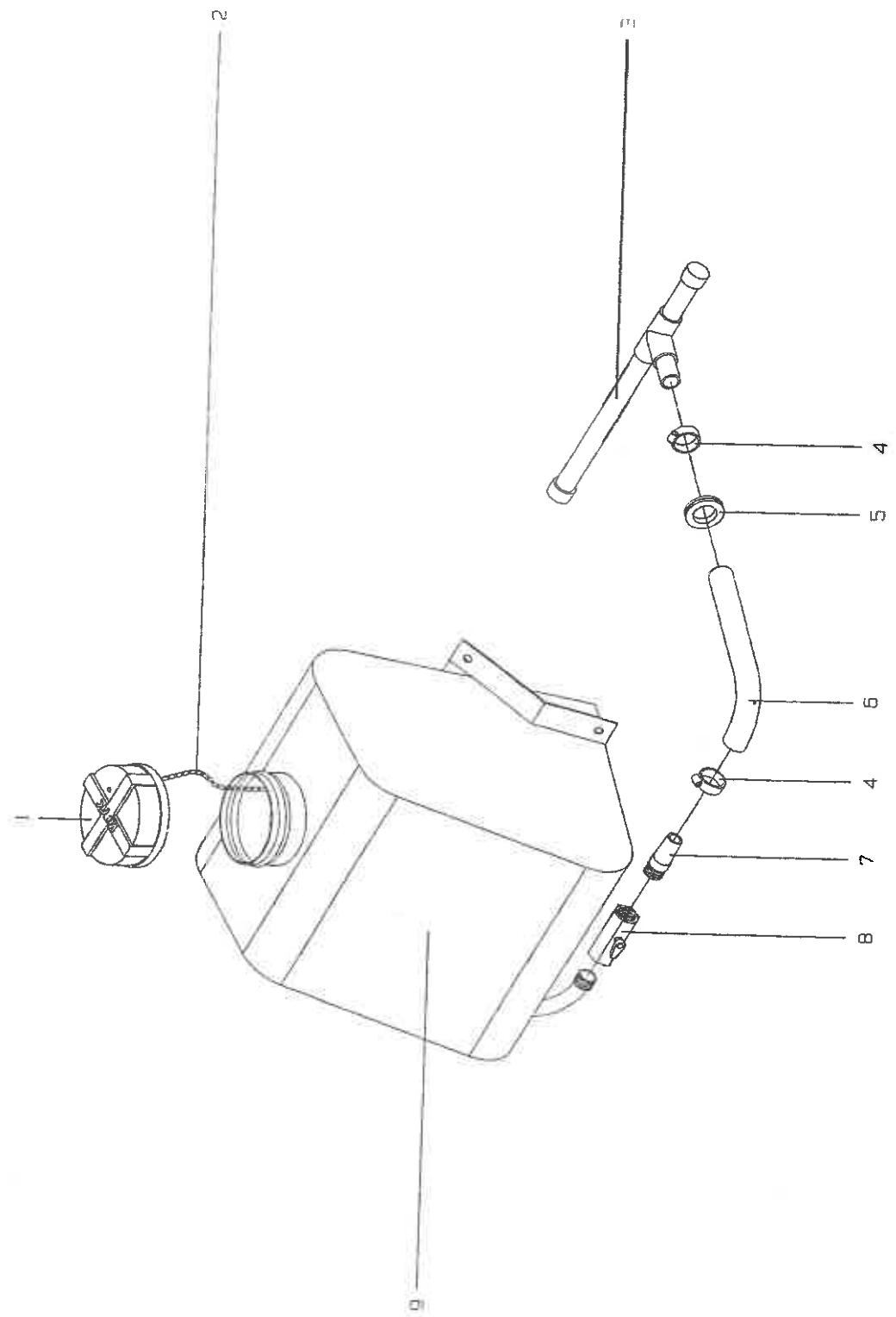


DRIVE CONTROL

390 - 63 - 63

390 - 63 - 1	Control Box D/C	1	V21068421
390 - 63 - 2	Actuation D/C	1	V39068021
390 - 63 - 3	Hex Nut	2	V18121210
390 - 63 - 4	Schnorr Washer	1	V15531218
390 - 63 - 5	Usit Ring	1	V16211218
390 - 63 - 6	Hex Nut	1	V18110610
390 - 63 - 7	Fork Joint	1	V15566900

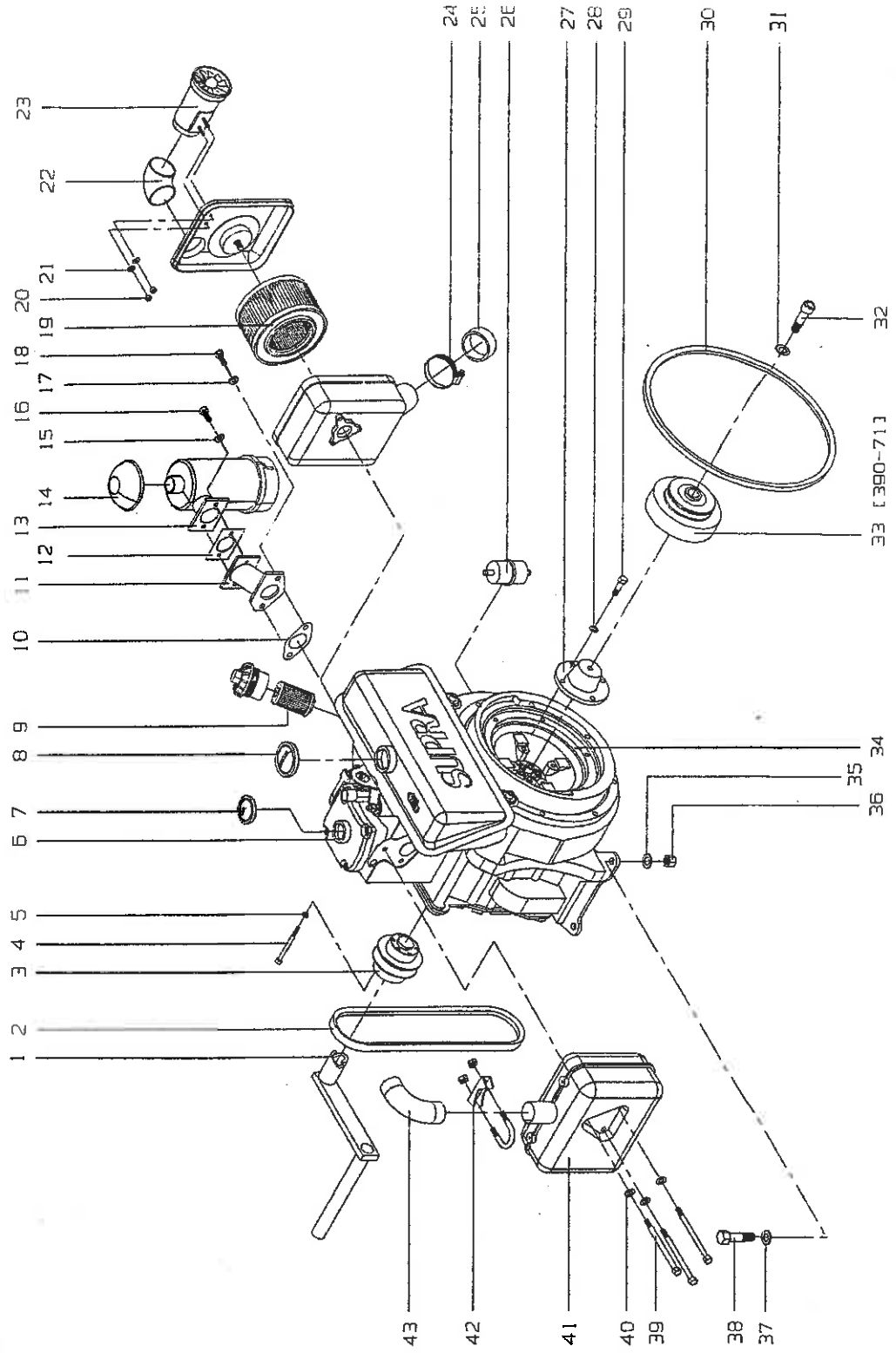
390 - 64 WATER TANK



390 - 64**WATER TANK**

390 - 64 - 1	Rubber Cap	2	V21092605
390 - 64 - 2	Chain	2	V11650011
390 - 64 - 3	Nozzle Tube	2	V39001005
390 - 64 - 4	Hose Clamp	4	V15551409
390 - 64 - 5	Rubber Bush	2	V39056064
390 - 64 - 6	Hose	2	V19510007
390 - 64 - 7	Nipple	2	V19510006
390 - 64 - 8	Water Tap	2	V19510005
390 - 64 - 9	Water Tank	2	V39001001

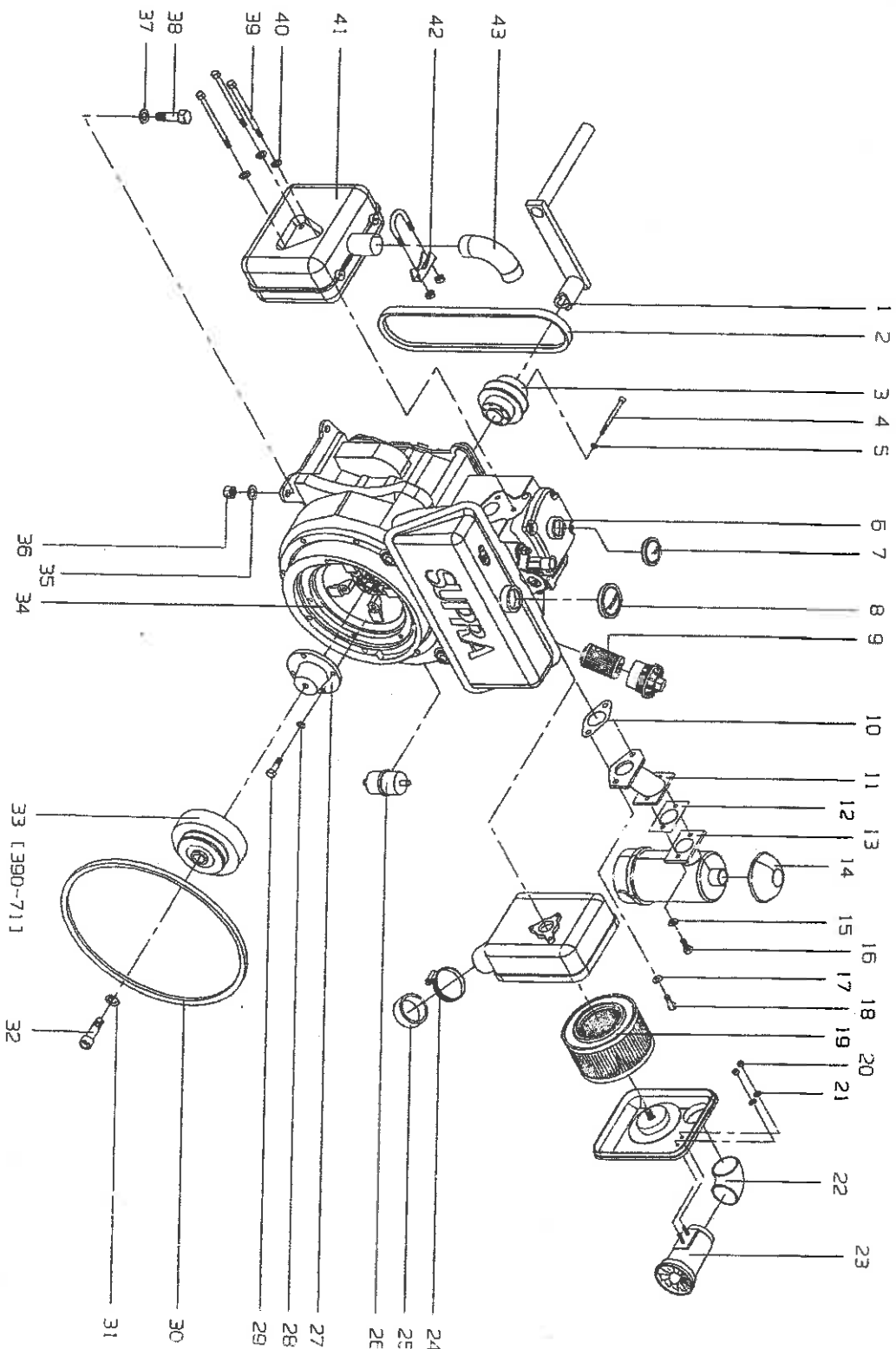
390 - 70 ENGINE



390 - 70**ENGINE**

390 - 70 - 1	Starting Handle	1	H00301902
390 - 70 - 2	V Belt	1	V16312215
390 - 70 - 3	V Belt Pulley	1	V39090102
390 - 70 - 4	SHC Screw	6	V17230642
390 - 70 - 5	Schnorr Washer	6	V15530610
390 - 70 - 6	Tappet Cover	1	H01286600
390 - 70 - 7	Oil Cap	1	H50392501
390 - 70 - 8	Fuel Cap	1	H40032700
390 - 70 - 9	Oil Filter	1	H01480000
390 - 70 - 10	Gasket	1	H01158700
390 - 70 - 11	Adaptor Flange	1	V21091102
390 - 70 - 12	Gasket	1	H01154000
390 - 70 - 13	Oil Bath Air Cleaner	1	H40102900
390 - 70 - 14	Rain Cap	1	H40099500
390 - 70 - 15	Schnorr Washer	2	V15530813
390 - 70 - 16	Hex Bolt	2	V17140816
390 - 70 - 17	Schnorr Washer	2	V15530813
390 - 70 - 18	Hex Bolt	2	V17140824
390 - 70 - 19	Air Cleaner Element	1	H04030100
390 - 70 - 20	Nylock Nut	2	V18130611
390 - 70 - 21	Washer	2	H50120000
390 - 70 - 22	Rubber Elbow	1	H05038910
390 - 70 - 23	Cyclone Pre Cleaner	1	H01491001
390 - 70 - 24	Hose Clamp	1	H50406600

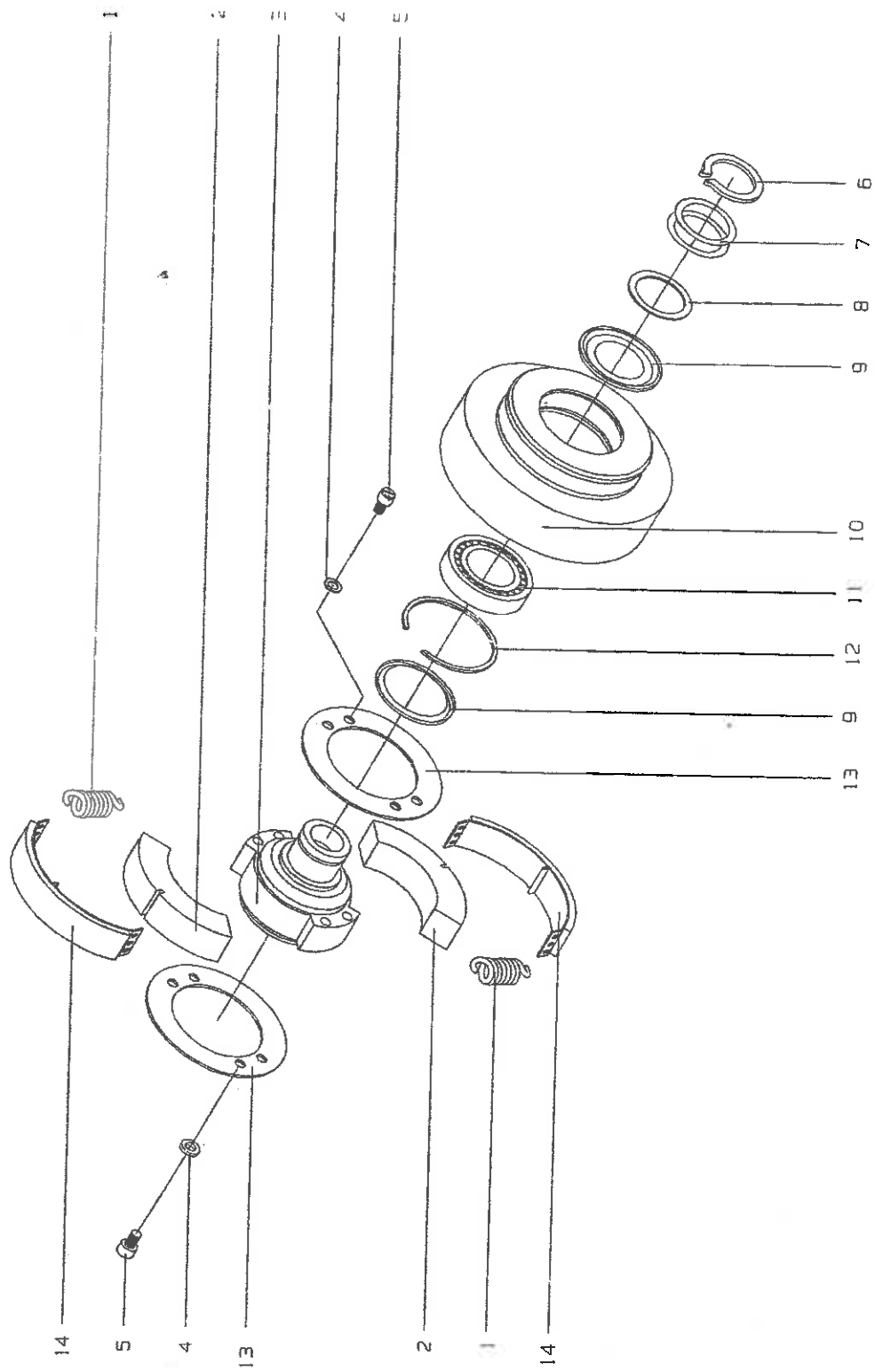
390 - 70 ENGINE



390 - 70**ENGINE**

390 - 70 - 25	Rubber Cap	1	H01481400
390 - 70 - 26	Inline Fuel Filter	1	H40089401
390 - 70 - 27	Intermediate Flange	1	V39060503
390 - 70 - 28	Schnorr Washer	4	V15530813
390 - 70 - 29	Hex Bolt	4	V17140824
390 - 70 - 30	V Belt	1	V16312121
390 - 70 - 31	Schnorr Washer	4	V15531218
390 - 70 - 32	SHC Screw	1	V17231217
390 - 70 - 33	Centrifugal Clutch Complete	1	V15650011
390 - 70 - 34	Hatz Diesel Engine	1	HE1D41
390 - 70 - 35	Schnorr Washer	4	V15531218
390 - 70 - 36	Nylock Nut	4	V18131218
390 - 70 - 37	Disc	4	V18752130
390 - 70 - 38	Hex Bolt	4	V17141237
390 - 70 - 39	Hex Bolt	3	V17130880
390 - 70 - 40	Schnorr Washer	3	V15530813
390 - 70 - 41	Exhaust Box	1	H90006000
390 - 70 - 42	Clamping Kit	1	H90006002
390 - 70 - 43	Exhaust Elbow	1	H90006001

390 - 71 CENTRIFUGAL CLUTCH



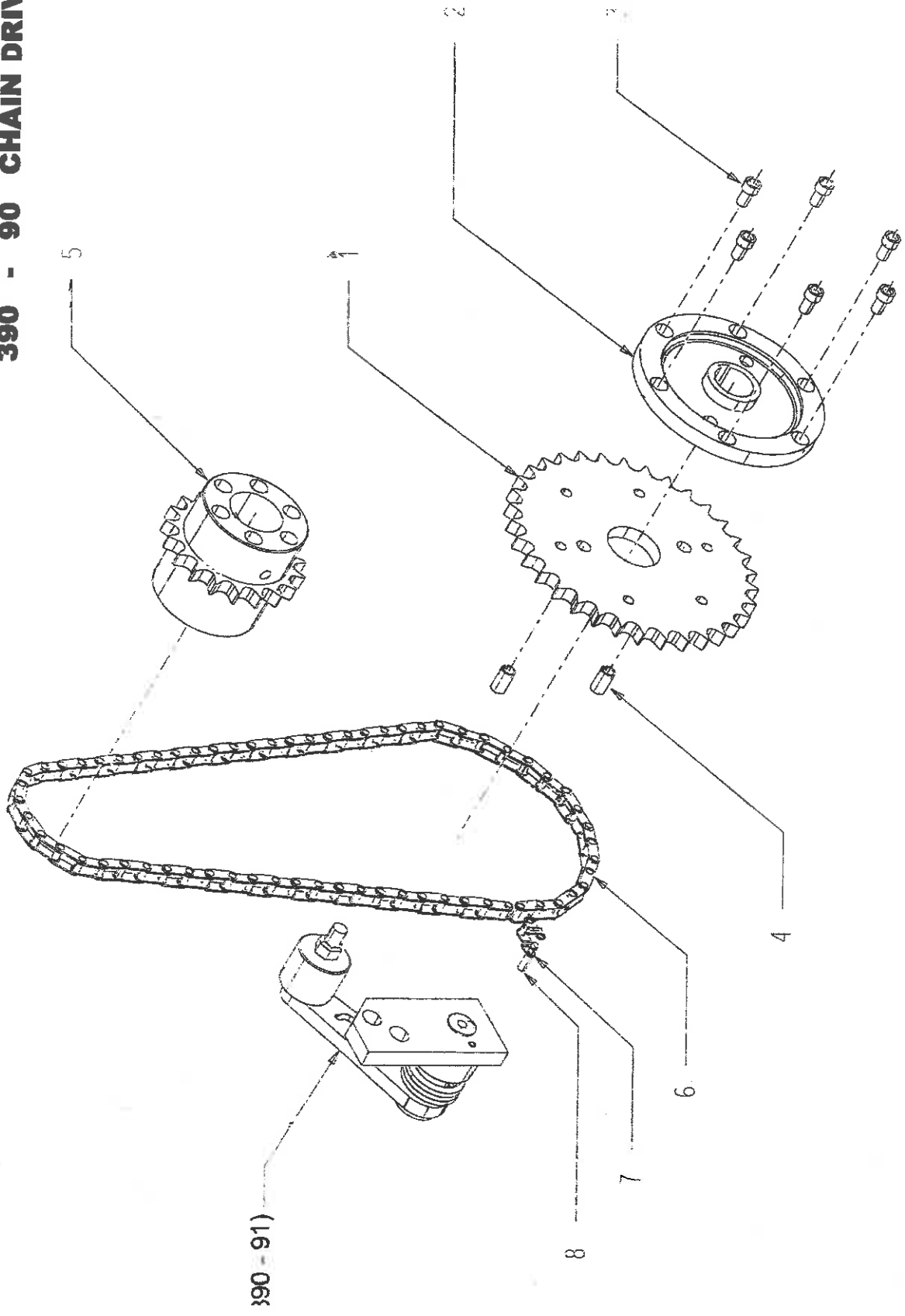
390 - 71

CENTRIFUGAL CLUTCH

1)	390 - 71 - 1	Spring	2	V15660326
	390 - 71 - 2	Centrifugal Weight	2	V15660104
	390 - 71 - 3	Hub	1	V15660404
	390 - 71 - 4	Schnorr Washer	4	V15530610
	390 - 71 - 5	Cheese Head Screw	4	V17210604
	390 - 71 - 6	Outer Circlip	1	V19211800
	390 - 71 - 7	Spring Ring	2	V15471032
	390 - 71 - 8	Clamping Disc	1	V15660604
	390 - 71 - 9	Nilos Ring	2	V15331226
	390 - 71 - 10	V Belt Pulley	1	V15660504
	390 - 71 - 11	Ball Bearing	1	V15113306
1)	390 - 71 - 12	Spring Ring	1	V19230550
	390 - 71 - 13	Clamping Disc	2	V15660704
1)	390 - 71 - 14	Lining Strap	2	V15660204
	390 - 71 - 15	Repair Kit	1	V15650012

1) Included in Repair Kit

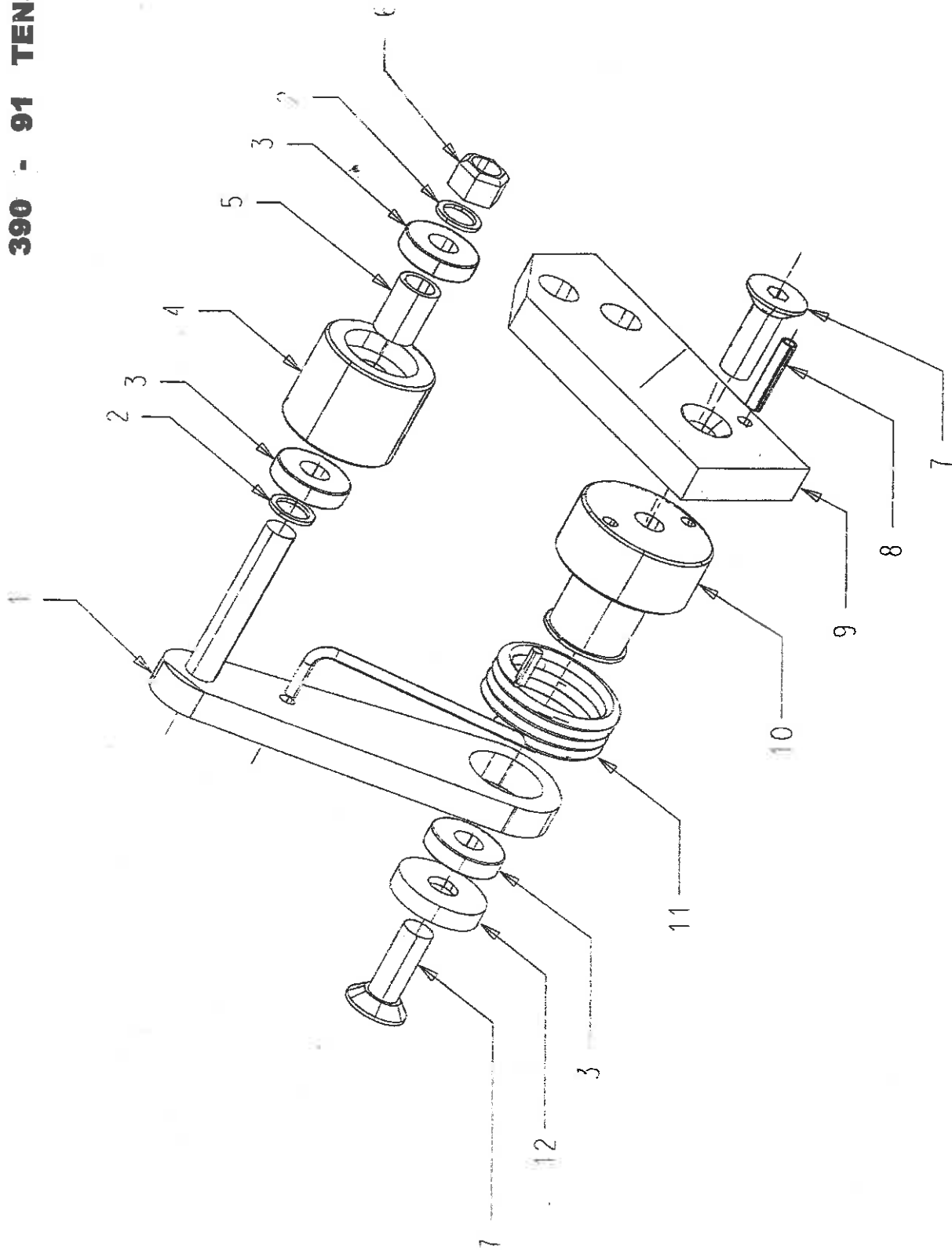
390 - 90 CHAIN DRIVE



390 - 90**CHAIN DRIVE**

390 - 90 - 1	Chain Sprocket	1	V39050908
390 - 90 - 2	Hub for Chain Sprocket	1	V39050908
390 - 90 - 3	SHC Screw	6	V17230601
390 - 90 - 4	Tightening Sleeve	2	V19160807
390 - 90 - 5	Starting Sprocket	1	V39090105
390 - 90 - 6	Chain with Link	1	V39090107
390 - 90 - 7	Master Link	1	V39090108
390 - 90 - 8	Half Link	1	V39090109
390 - 90 - 9	Tensioner Complete	1	V39091000

390 - 91 TENSIONER



390 - 91**TENSIONER**

390 - 91 - 1	Tension Arm	1	V39091010
390 - 91 - 2	Distance Washer	2	V39091014
390 - 91 - 3	Ball Bearing	3	V15118308
390 - 91 - 4	Pulley	1	V39091016
390 - 91 - 5	Distance Bush	1	V39091018
390 - 91 - 6	Nylock Nut	1	V1813-813
390 - 91 - 7	Countersunk Screw	2	V17320816
390 - 91 - 8	Tightening Sleeve	1	V19150409
390 - 91 - 9	Bracket	1	V39091021
390 - 91 - 10	Gudgeon	1	V39091025
390 - 91 - 11	Tension Spring	1	V39091028
390 - 91 - 12	Ring	1	V39091030

H00115870	390 - 70 - 10
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H01286600	390 - 70 - 6
H01480000	390 - 70 - 9
H01481400	390 - 70 - 25
H01491001	390 - 70 - 23
H04030100	390 - 70 - 19
H05038910	390 - 70 - 22
H1D30	390 - 70 - 34
H40032700	390 - 70 - 8
H40089401	390 - 70 - 26
H40099500	390 - 70 - 14
H40102900	390 - 70 - 13
H50120000	390 - 70 - 21
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H90006001	390 - 70 - 43
H90006002	390 - 70 - 42
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V15114204	390 - 50 - 42
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V15115005	390 - 30 - 31
V15117006	390 - 50 - 46
V15118308	390 - 30 - 62
	390 - 91 - 3

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V15226241	390 - 30 - 9
V15331226	390 - 10 - 2
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