

SECTION C

N - SERIES GEARBOX LUBRICATION

C1.1 N-SERIES GEARBOXES: See data sheet and/or assembly drawing at the front of this manual to find the model number of gearbox supplied. Your mixer has been lubricated at the factory with the proper type (for an ambient temperature range of 20° - 104°F; for different ambient conditions, change to appropriate oil shown in Table C1.3) and amount of lubrication for mixer service. To prevent leakage, the gearbox vent has been replaced with a temporary plug for shipment. The vent is included separately.

WARNING: VENT MUST BE REINSTALLED PRIOR TO START-UP OR DAMAGE TO GEARBOX WILL OCCUR.

Check that the oil level is to the proper level before start-up (see Figure C1.1), and that none was lost during shipment/installation. The first oil change must occur, under normal conditions, at 800 hours of service. Subsequently, change the oil every 8,000

hours or 2 years, whichever occurs first. Under extreme conditions it is recommended that the lubricant in the gearbox be changed more frequently. Synthetic oils and greases may be changed less frequently. Pipe fittings may be provided to assist in oil draining/filling (see Section C1.2). Refer to Table C1.3 for the lubricant recommended for temperatures in your area. When changing to a different lubricant, clean gearbox with mineral spirits before refilling. Regrease input bearings every 2,000 hours or 1 year, whichever occurs first. Use an lithium base bearing grease, NLGI #2 or #3, when regreasing. Open and clean the grease outlet (opposite zirc). Add grease until new grease is forced through the outlet. Remove excess grease. Run one half hour before replacing the grease outlet plugs. Some gearboxes may be supplied with sealed for life input bearings and will not have a grease fitting on the input. See section C2.3 for more information.

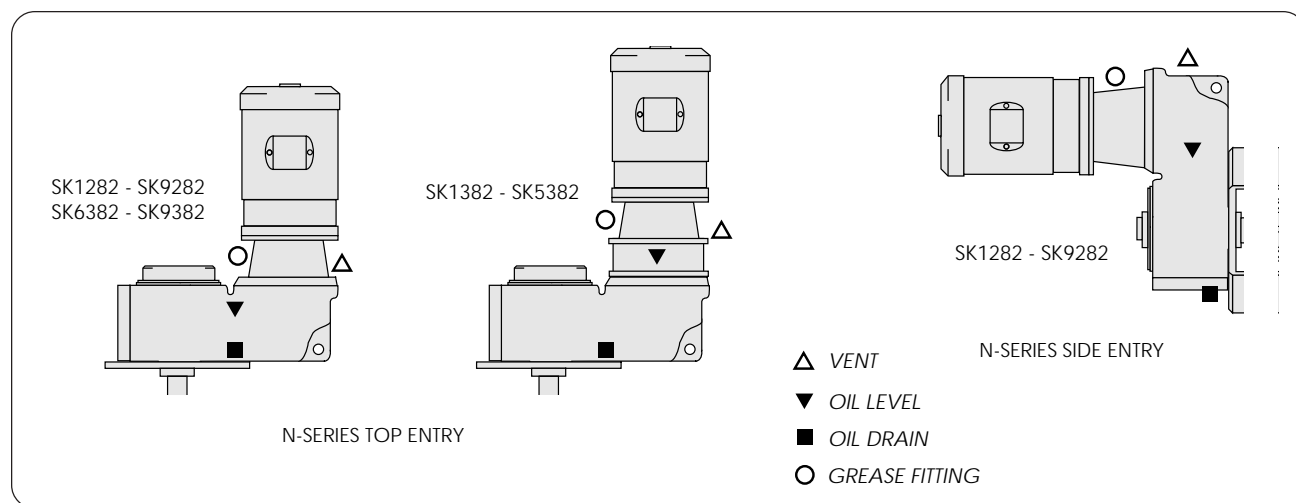


FIGURE C1.1

| N-SERIES DOUBLE REDUCTION LUBRICATION CAPACITIES (Qts.) | | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MODEL | SK1282 | SK2282 | SK3282 | SK4282 | SK5282 | SK6282 | SK7282 | SK8282 | SK9282 |
| SIDE ENTRY | 1 | 1.7 | 3.3 | 5 | 7.9 | 18 | 26.4 | 39.1 | 78.2 |
| TOP ENTRY | 1.3 | 2.1 | 4.3 | 5.7 | 9.3 | 18.5 | 28.5 | 43.3 | 76.1 |
| N-SERIES TRIPLE REDUCTION LUBRICATION CAPACITIES (Qts.) | | | | | | | | | |
| MODEL | SK1382 | SK2382 | SK3382 | SK4382 | SK5382 | SK6382 | SK7382 | SK8382 | SK9382 |
| TOP ENTRY | 2.2 | 3.3 | 5.9 | 8.8 | 14.8 | 19 | 26.4 | 40.2 | 78.2 |

TABLE C1.2

RECOMMENDED LUBRICANTS FOR HELICAL AND HELICAL-BEVEL GEARBOXES

| LUBRICANT CHARACTERISTICS | | | | | | | |
|---------------------------------|---|-----------------------------------|---|---|---|--|---|
| AMBIENT TEMP. RANGE | 20° to 104° F (-5° to +40° C) <i>Factory filled</i> | -5° to +75° F (-21° to +24° C) | -10° to +75° F (-23° to 24° C) | -40° to +50° F (-40° to 10° C) | -13° to 140° F (-25° to 60° C) (synthetic oils) | 14° to 176° F (-10° to 80° C) (synthetic oils) | 5° - 125° F (-15° to 52° C) Fluid Grease |
| SSU VISCOSITY at 104° F (40° C) | 918 to 1122 | 626 to 765 | 417 to 510 | 67 to 83 | 100 to 1000 | 130 to 1112 | ... |
| AGMA LUBRICANT NO. | 5EP | 4EP | 3EP | ... | ... | ... | ... |
| ASTM VISCOSITY GRADE | S1000 / C220 | S700/C150 | S465/C100 | ... | ... | ... | ... |
| ISO GRADE | VG220 | VG150 | VG100 | VG15 | ... | ... | ... |
| LUBRICANT MANUFACTURERS | | | | | | | |
| CASTROL | Alpha SP 220 Alpha MW220 Alpha MAX 220 Vitalube GS 220 (food grade) | ... | Alpha SP 100 Alpha MW 100 Alpha MAX 100 | Hyspin AWS 15 Hyspin SP 15 Hyspin ZZ 15 | Isolube EP220 | Alphasyn PG 220 | Alpha Gel 00 |
| CHEVRON | NL GEAR compound 220 FM ISO 220 (food grade) | NL GEAR compound 150 | ... | E.P. Hydraulic Oil 22 | ... | ... | ... |
| EXXON/ESSO | Spartan EP 220 Gear Oil FM 220 (food grade) | Spartan EP 150 | Spartan EP 100 | Univis J13 | ... | Glycolube 220 | ... |
| MOBIL | Mobilgear 630 Mobilgear XMP 220 Mobil DTE FM 220 (food grade) | Mobilgear 629 | Mobilgear 627 Mobilgear XMP 110 | DTE 11M | Glygoyle HE 680 | Mobil SHC 630 Glygoyle HE 220 | Mobilux EP023 Mobilith SHC 007 Glygoyle Grease 00 |
| SHELL | Omala EP220 Cassida Fluid GL220 (food grade) | ... | Omala EP100 | Tellus T 15 Omala HP 32 (synthetic) | Omala HD 220 Tivela S 680 | Omala HD 680 Tivela WB Tivela S 220 | Tivela Comp. A Tivela GL 00 |
| TEXACO | Meropa 220 | Meropa 150 | ... | Pinnacle EP32 (synthetic) | ... | Pinnacle EP680 | Multifak HD00 (ISO 680) |

TABLE C.1.3

**FOOD GRADE: CHEVRON FM ISO 220
SYNTHETIC FOOD GRADE: MOBILE GARGOYLE
ARCTIC SHC 230 OR 234, OILJAX MAGNAPLATE
85W140-FG**

C1.2 Pipe fittings have been provided to assist in filling and draining gearbox oil. Install these fittings in place of the 1/2" N.P.T. drain in the side of the gearbox (See Figure C1.4).

Refer to table C.1.2 for approximate oil quantities for your gearbox size.

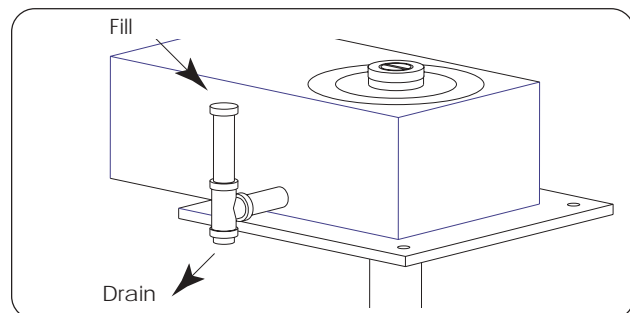


Figure C1.4

GEARBOX PARTS

C2.1 See data sheet and/or assembly drawing in the front of this manual to find the model number of gearbox supplied. The following drawings (Figures C2.1, C2.2, & C2.3) show standard parts for the N-Series gearbox, your model may vary slightly due to size and ratio. C-face motor adapter is shown in assembly drawings. See page C-8 (Figure C2.4) for

motor scoop input adapter parts. Bearing and seal part numbers are shown on Tables C2.1 and C2.2. When requesting other part numbers, have serial number and model number off mixer nameplate readily available. If disassembling gearbox, contact factory for complete instructions and exact drawing for accurate placement of shims, snap rings, etc.

ALWAYS REFERENCE MIXER SERIAL NUMBER WHEN PLACING ORDER OR MAKING A PARTS INQUIRY.

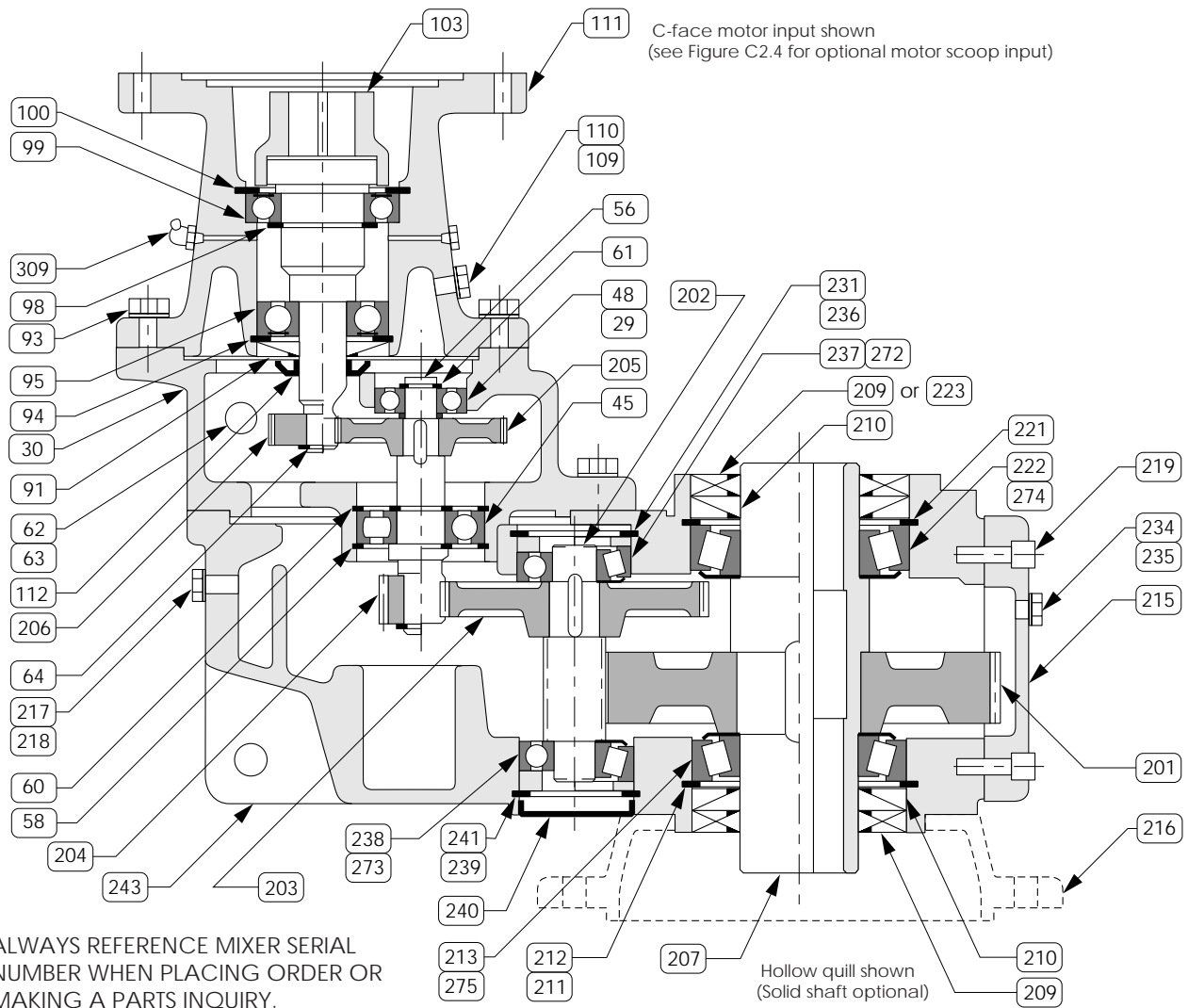
DOUBLE REDUCTION PARTS LIST (SK1282 - SK9282)

| ITEM | PART NAME | ITEM | PART NAME | ITEM | PART NAME |
|------|------------------------------|------|-------------------------------------|------|--|
| 64 | Snap ring | •205 | Input gear | 231 | Snap ring |
| 66 | Key (input pinion) | •206 | Input pinion/shaft | 233 | Key (intermediate gear) |
| •91 | Oil seal | 207 | Output shaft (hollow shaft shown) | 234 | Plug |
| 93 | Input mounting bolt | 208 | Key (output shaft) | 235 | Plug gasket |
| 94 | Snap ring | •209 | Oil seal | 236 | Spacer |
| •95 | Lower input bearing | •210 | Oil seal | •237 | Upper intermediate bearing |
| 98 | Snap ring | 211 | Snap ring | •238 | Lower intermediate bearing |
| •99 | Upper input bearing | •212 | Shim kit | 239 | Snap ring |
| 100 | Snap ring | •213 | Lower output bearing | 240 | Seal plug |
| 102 | Key (input coupling) | 215 | Inspection cover | •241 | Shim kit |
| •103 | Input coupling | 216 | Ring base adapter (optional) | 242 | Spacer |
| 109 | Plug gasket | 217 | Plug / Vent* | 243 | Housing |
| 110 | Plug / Vent* | 218 | Plug gasket | 253 | Ring base bolt |
| 111 | C-face motor adapter housing | 219 | Inspection cover bolt | 272 | Nilos ring |
| 112 | Oil slinger (optional) | 220 | Key (output gear) | 273 | Nilos ring |
| 116 | Spacer | 221 | Snap ring | 274 | Nilos ring |
| 117 | Snap ring | •222 | Upper output bearing | 275 | Nilos ring |
| •201 | Output gear | 223 | Seal plug (solid output shaft only) | 309 | Input bearing grease fitting |
| •202 | Output pinion/shaft | 229 | Spacer | | (See section C2.3 for SK6282 & larger) |

• = Recommended spare part

*See page C1 for proper vent placement

FIGURE C2.1



TRIPLE REDUCTION PARTS LIST (SK1382 - SK5382)

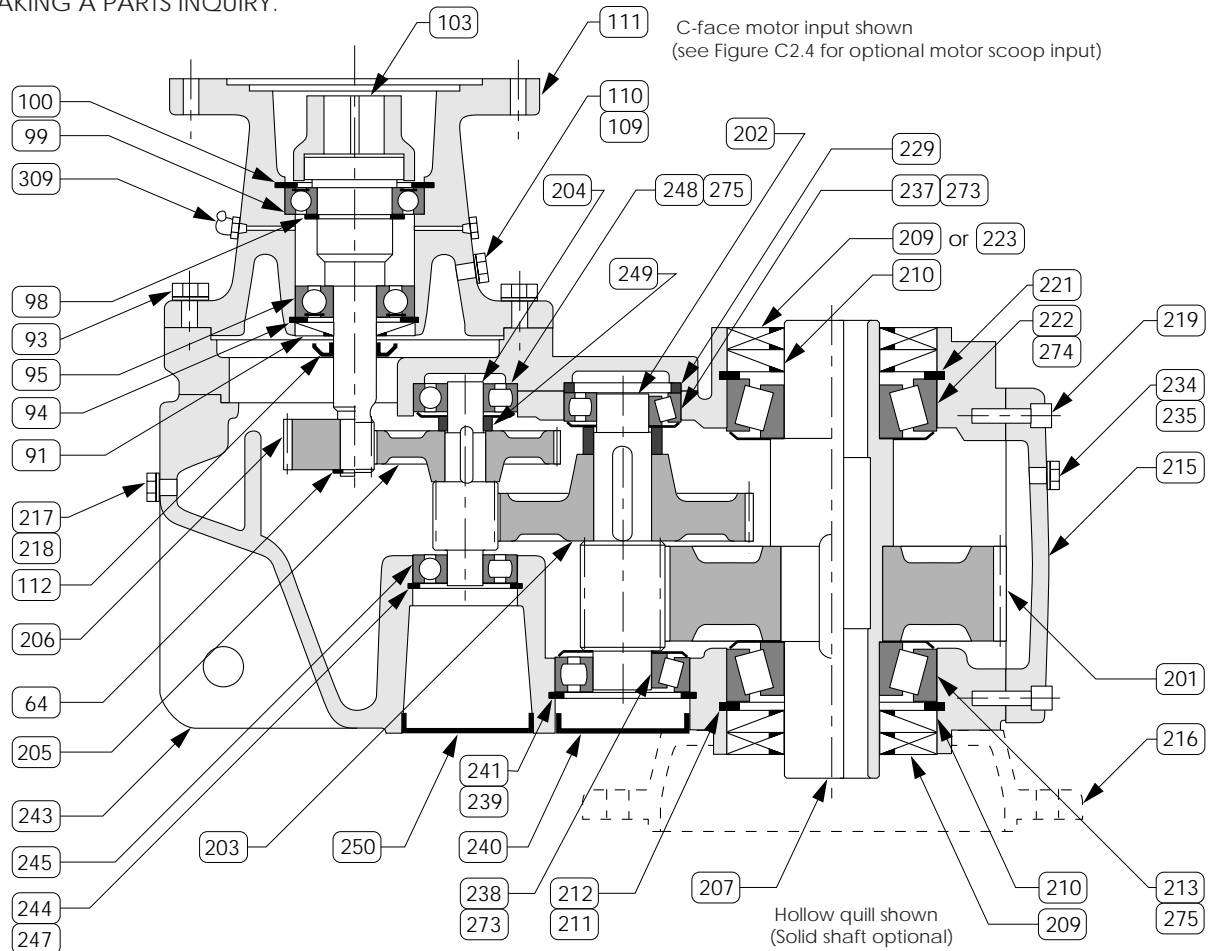
| ITEM | PART NAME | ITEM | PART NAME | ITEM | PART NAME |
|------|---------------------------------|------|---------------------------------------|------|---|
| 27 | 1st stage mounting bolt | 102 | Key (<i>input coupling</i>) | 219 | Inspection cover bolt |
| 29 | Spacer | •103 | Input coupling | 220 | Key (<i>output gear</i>) |
| 30 | 1st stage reduction housing | 109 | Plug gasket | 221 | Snap ring |
| •45 | Lower 1st stage bearing | 110 | Plug / Vent* | •222 | Upper output bearing |
| 46 | Key (<i>first stage gear</i>) | 111 | C-face motor adapter housing | 223 | Seal plug (<i>solid output shaft</i>) |
| •48 | Upper 1st stage bearing | 112 | Oil slinger (optional) | 229 | Spacer |
| 52 | Snap ring | 116 | Spacer | 231 | Snap ring |
| 53 | Key (<i>1st stage pinion</i>) | 117 | Snap ring | 233 | Key (<i>second stage gear</i>) |
| 54 | Snap ring | •201 | Output gear | 234 | Plug |
| 56 | 1st stage reduction shaft | •202 | Output pinion/shaft | 235 | Plug gasket |
| 57 | Snap ring | •203 | Second stage gear | 236 | Spacer |
| 58 | Snap ring | •204 | 1st stage pinion | •237 | Upper intermediate bearing |
| •59 | Shim set | •205 | 1st stage gear | •238 | Lower intermediate bearing |
| 60 | Snap ring | •206 | Input pinion/shaft | 239 | Snap ring |
| 61 | Snap ring | 207 | Output shaft | •240 | Seal plug |
| 62 | Plug | 208 | Key (<i>output shaft</i>) | •241 | Shim kit |
| 63 | Plug gasket | •209 | Oil seal | 242 | Spacer |
| 64 | Snap ring | •210 | Oil seal | 243 | Housing |
| 66 | Key (<i>input pinion</i>) | 211 | Snap ring | 253 | Ring base bolt |
| •91 | Oil seal | •212 | Shim kit | 272 | Nilos ring |
| 93 | Input mounting bolt | •213 | Lower output bearing | 273 | Nilos ring |
| •95 | Lower input bearing | 215 | Inspection cover | 274 | Nilos ring |
| 98 | Snap ring | 216 | Ring base adapter (<i>optional</i>) | 275 | Nilos ring |
| •99 | Upper input bearing | 217 | Plug / Vent | 309 | Input bearing grease fitting |
| 100 | Snap ring | 218 | Plug gasket | | |

• = Recommended spare part

*See page C1 for proper vent placement

FIGURE C2.2

ALWAYS REFERENCE MIXER SERIAL NUMBER WHEN PLACING ORDER OR MAKING A PARTS INQUIRY.



TRIPLE REDUCTION PARTS LIST (SK6382 - SK9382)

| ITEM | PART NAME | ITEM | PART NAME | ITEM | PART NAME |
|------|---------------------------------|------|--|--|------------------------------|
| 64 | Snap ring | 211 | Snap ring | 243 | Housing |
| 66 | Key (<i>input pinion</i>) | 212 | Shim kit | 244 | Snap ring |
| •91 | Oil seal | •213 | Lower output bearing | •245 | Lower 1st stage bearing |
| 93 | Input mounting bolt | 215 | Inspection cover | •247 | Shim kit |
| •95 | Lower input bearing | 216 | Ring base adapter (<i>optional</i>) | •248 | Upper 1st stage bearing |
| 98 | Snap ring | 217 | Plug / Vent* | 249 | Spacer |
| •99 | Upper input bearing | 218 | Plug gasket | 253 | Ring base bolt |
| 100 | Snap ring | 219 | Inspection cover bolt | •250 | Seal plug |
| 102 | Key (<i>input coupling</i>) | 220 | Key (<i>output gear</i>) | 271 | Nilos ring |
| •103 | Input coupling | 221 | Snap ring | 272 | Nilos ring |
| 109 | Plug gasket | •222 | Upper output bearing | 273 | Nilos ring |
| 110 | Plug / Vent* | •223 | Seal plug (<i>solid output shaft only</i>) | 274 | Nilos ring |
| 111 | C-face motor adapter housing | 227 | Input cover bolt | 275 | Nilos ring |
| 112 | Oil slinger (<i>optional</i>) | 229 | Spacer | 309 | Input bearing grease fitting |
| 116 | Spacer | 230 | Input cover | (See section C2.3 for SK7382 & larger) | |
| 117 | Snap ring | 233 | Key (<i>second stage gear</i>) | • = Recommended spare part | |
| •201 | Output gear | 234 | Plug | | |
| •202 | Second stage pinion shaft | 235 | Plug gasket | | |
| •203 | Second stage gear | 236 | Spacer | | |
| •204 | First stage pinion shaft | •237 | Upper 2nd stage bearing | | |
| •205 | First stage input gear | •238 | Lower 2nd stage bearing | | |
| •206 | Input pinion/shaft | 239 | Snap ring | | |
| 207 | Output shaft | •240 | Seal plug | | |
| 208 | Key (<i>output shaft</i>) | •241 | Shim kit | | |
| •209 | Oil seal | 242 | Spacer | | |
| •210 | Oil seal | | | | |

*See page C1 for proper vent placement

FIGURE C2.3

DOUBLE REDUCTION INPUT BEARINGS AND SEALS

Contact factory for all other parts.

| ITEM | POS. | C-Face Motors | | | | | | Foot Motors | |
|---|----------------|-------------------------------|-------------------------------|---|-------------------------------|---------------------------------|---------------------------------|----------------|--|
| | | 56C | 140TC | 180TC | 210TC | 250TC | 280TC | POS. | MTR SCOOP |
| SK1282 Oil seal Lower bearing Upper bearing | 91 95 99 | 20x52x10A 6304-Z 6007-Z | 20x52x10A 6304-Z 6007-Z | | | | | 67 71 75 | 160S 20x47x7A 6204-Z 6204-Z |
| SK2282 Oil seal Lower bearing Upper bearing | 91 95 99 | 30x72x10A 6306-Z 6007-Z | 30x72x10A 6306-Z 6007-Z | 30x72x10A 6306-Z 6208-Z | 40x90x12A 6308-Z 6211-Z | | | 67 71 75 | 250S 30x72x10A 6306-Z 6306-Z |
| SK3282 Oil seal Lower bearing Upper bearing | 91 95 99 | 30x72x10A 6306-Z 6007-Z | 30x72x10A 6306-Z 6007-Z | 30x72x10A 6306-Z 6208-Z | 40x90x12A 6308-Z 6211-Z | | | 67 71 75 | 250S 30x72x10A 6306-Z 6306-Z |
| SK4282 Oil seal Lower bearing Upper bearing | 91 95 99 | 30x72x10A 6306-Z 6207-Z | 30x72x10A 6306-Z 6207-Z | see factory see factory see factory | 50x80x10A 6310-Z 6311-Z | 55x85x10A 6311-Z 6312-Z | | 67 71 75 | 300S 40x100x10A 6309-Z 6308-Z |
| SK5282 Oil seal Lower bearing Upper bearing | 91 95 99 | 30x72x10A 6306-Z 6207-Z | 30x72x10A 6306-Z 6207-Z | see factory see factory see factory | 50x80x10A 6310-Z 6311-Z | 55x85x10A 6311-Z 6312-Z | | 67 71 75 | 300S 60x100x12A 6309-Z 6308-Z |
| SK6282 Oil seal Lower bearing Upper bearing | 91 95 99 | | | 50x80x10A 6310-Z 6311-Z | 50x80x10A 6310-Z 6311-Z | 75x115x13A NU215mm 3216-Z | 75x115x13A NU215mm 3216-Z | 67 71 75 | DIA 250 65x120x10A NU311E 6311-Z |
| SK7282 Oil seal Lower bearing Upper bearing | 91 95 99 | | | 50x80x10A 6310-Z 6311-Z | 50x80x10A 6310-Z 6311-Z | 75x115x13A NU215mm 3216-Z | 75x115x13A NU215mm 3216-Z | 67 71 75 | DIA 250 65x120x10A NU311E 6311-Z |
| SK8282 Oil seal Lower bearing Upper bearing | 91 95 99 | | | 50x80x10A 6310-Z 6311-Z | 50x80x10A 6310-Z 6311-Z | 75x115x13A NU215mm 3216-Z | 75x115x13A NU215mm 3216-Z | 67 71 75 | DIA 250 65x120x10A NU311E 6311-Z |
| SK9282 Oil seal Lower bearing Upper bearing | 91 95 99 | | | 50x80x10A 6310-Z 6311-Z | 50x80x10A 6310-Z 6311-Z | 75x115x13A NU215mm 6216-Z | 75x115x13A NU215mm 6216-Z | 67 71 75 | Ratio Dependant see factory |

TABLE C2.1

C2.2 Input bearings are shielded on one side only. When replacing bearings, be sure to install them with the shield facing away from the grease fitting on the input cylinder. NOTE: GEARBOXES SHIPPED BEFORE 1995 MAY REQUIRE DOUBLE SEALED BEARINGS ON THE INPUT. PLEASE CONSULT THE FACTORY TO VERIFY.

CAUTION: DO NOT DISASSEMBLE GEARBOX WITHOUT PRIOR AUTHORIZATION FROM SHARPE MIXERS OR WARRANTY WILL BE VOID. (DISREGARD WHEN MIXER IS OUT OF WARRANTY PERIOD.)

TRIPLE REDUCTION INPUT BEARINGS AND SEALS

Contact factory for all other parts.

| ITEM | C-Face Motors | | | | | | | Foot Motors | |
|---|----------------|-------------------------------|-------------------------------|---|-------------------------------|---------------------------------|---------------------------------|----------------|--|
| | POS. | 56C | 140TC | 180TC | 210TC | 250TC | 280TC | POS. | MTR SCOOP |
| SK1382 Oil seal Lower bearing Upper bearing | 91 95 99 | 20x52x10A 6304-Z 6007-Z | 20x52x10A 6304-Z 6007-Z | | | | | 67 71 75 | 160S 20x47x7A 6204-Z 6204-Z |
| SK2382 Oil seal Lower bearing Upper bearing | 91 95 99 | 20x52x10A 6304-Z 6007-Z | 20x52x10A 6304-Z 6007-Z | | | | | 67 71 75 | 160S 20x47x7A 6204-Z 6204-Z |
| SK3382 Oil seal Lower bearing Upper bearing | 91 95 99 | 20x52x10A 6304-Z 6007-Z | 30x72x10A 6304-Z 6007-Z | | | | | 67 71 75 | 160S 20x47x7A 6204-Z 6204-Z |
| SK4382 Oil seal Lower bearing Upper bearing | 91 95 99 | 30x72x10A 6306-Z 6007-Z | 30x72x10A 6306-Z 6007-Z | see factory see factory see factory | 40x90x12A 6308-Z 6211-Z | | | 67 71 75 | 250S 30x72x10A 6306-Z 6306-Z |
| SK5382 Oil seal Lower bearing Upper bearing | 91 95 99 | 30x72x10A 6306-Z 6007-Z | 30x72x10A 6306-Z 6007-Z | see factory see factory see factory | 40x90x12A 6308-Z 6211-Z | | | 67 71 75 | 250S 30x72x10A 6306-Z 6306-Z |
| SK6382 Oil seal Lower bearing Upper bearing | 91 95 99 | 30x72x10A 6306-Z 6207-Z | 30x72x10A 6306-Z 6207-Z | see factory see factory see factory | 50x80x10A 6310-Z 6311-Z | 55x85x10A 6311-Z 6312-Z | | 67 71 75 | 300S 60x100x12A 6309-Z 6308-Z |
| SK7382 Oil seal Lower bearing Upper bearing | 91 95 99 | | | 50x80x10A 6310-Z 6311-Z | 50x80x10A 6310-Z 6311-Z | 75x115x13A NU215mm 3216-Z | 75x115x13A NU215mm 3216-Z | 67 71 75 | DIA 250 65x120x10A NU311E 6311-Z |
| SK8382 Oil seal Lower bearing Upper bearing | 91 95 99 | | | 50x80x10A 6310-Z 6311-Z | 50x80x10A 6310-Z 6311-Z | 75x115x13A NU215mm 3216-Z | 75x115x13A NU215mm 3216-Z | 67 71 75 | DIA 250 65x120x10A NU311E 6311-Z |
| SK9382 Oil seal Lower bearing Upper bearing | 91 95 99 | | | 50x80x10A 6310-Z 6311-Z | 50x80x10A 6310-Z 6311-Z | 75x115x13A NU215mm 3216-Z | 75x115x13A NU215mm 6216-Z | 67 71 75 | DIA 250 65-120-10A NU311E 6311-Z |

TABLE C.2

ALWAYS REFERENCE THE MIXER SERIAL NUMBER WHEN PLACING ORDER OR MAKING PARTS INQUIRY. THIS SERIAL NUMBER IS LOCATED ON THE **SHARPE MIXER** NAMEPLATE & ON THE FRONT COVER OF THE SERVICE MANUAL.

GEARBOX BEARINGS AND SEALS

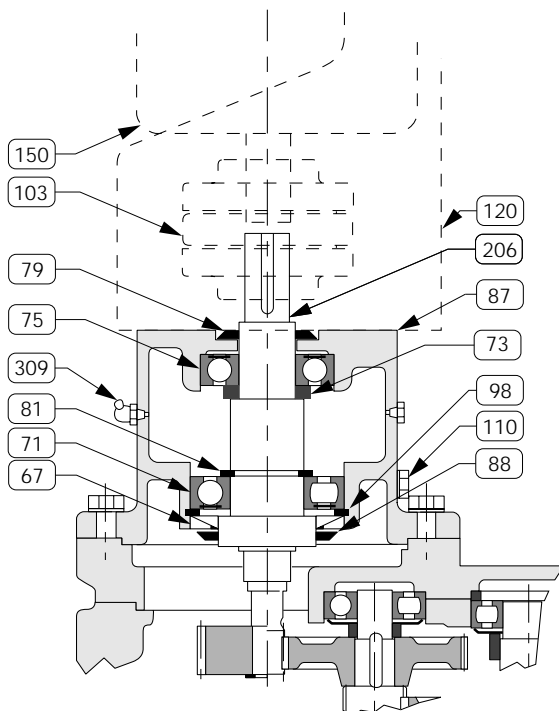
Contact factory for all other parts.

| GEARBOX | OIL SEALS | | BEARINGS | | |
|---------------|--------------------------------|--|--|-----------------------------------|--------------------------------|
| | LOW SPEED Pos. Nos. 209/210 | | INTERMEDIATE Pos. Nos. 245/248 or 45/48 | INTERMEDIATE Pos. Nos. 237/238 | LOW SPEED Pos. Nos. 213/222 |
| SK1282 | 45x75x7AS/45x75x7A | | | 6302/6302-2Z | 32009/32009 |
| SK1382 | 45x75x7AS/45x75x7A | | <i>contact factory</i> | 6302/6302-2Z | 32009/32009 |
| SK2282 | 50x90x8AS/50x90x10A | | | 6303TMB/6303TMB | 30210/30210 |
| SK2382 | 50x90x8AS/50x90x10A | | <i>contact factory</i> | 6303TMB/6303TMB | 30210/30210 |
| SK3282 | 55x100x10AS/55x100x10A | | | 30304/32304 | 30211/30211 |
| SK3382 | 55x100x10AS/55x100x10A | | <i>contact factory</i> | 30304/32304 | 30211/30211 |
| SK4282 | 70x125x12AS/70x125x12A | | | 32305/32305 | 30214/30214 |
| SK4382 | 70x125x12AS/70x125x12A | | NUP305E/TMB303 | 32305/32305 | 30214/30214 |
| SK5282 | 85x150x12AS/85x150x12A | | | 30306/32306 | 30217/30217 |
| SK5382 | 85x150x12AS/85x150x12A | | NUP307E/NUP304E | 30306/32306 | 30217/30217 |
| SK6282 | 100x180x12AS/100x180x12A | | | NJ407/22308E | 30220/30220 |
| SK6382 | 100x180x12AS/100x180x12A | | NJ306E/6404 | NJ407/22308E | 30220/30220 |
| SK7282 | 110x200x13AS/110x200x13A | | | 32308/32309 | 30222/30222 |
| SK7382 | 110x200x13AS/110x200x13A | | NJ307E/6405 | 31308E/32309 | 30222/30222 |
| SK8282 | 130x230x14AS/130x230x14A | | | 32309/32310 | 30226/30226 |
| SK8382 | 130x230x14AS/130x230x14A | | NJ309E/6407 | 31309/32310 | 30226/30226 |
| SK9282 | 160x290x18AS/160x290x18A | | | 22311E/22314E | 30232/30232 |
| SK9382 | 160x290x18AS/160x290x18A | | 22308E/22308E | 22311E/22314E | 30232/30232 |

TABLE C2.3

MOTOR SCOOP INPUT PARTS LIST (ALL SIZES)

Alternate to C-face input assembly shown in Gearbox assemblies, Figures C2.1 through C2.3



| ITEM | PART NAME |
|------|------------------------------|
| •67 | Oil seal |
| •71 | Lower input bearing |
| 73 | Spacer |
| •75 | Upper input bearing |
| 79 | Oil slinger |
| 81 | Snap ring |
| 87 | Input cylinder |
| 88 | Oil slinger |
| 98 | Snap ring |
| •103 | Input coupling |
| 110 | Plug / Vent |
| 120 | Motor scoop |
| 150 | Motor |
| •206 | Input shaft / pinion |
| 309 | Input bearing grease fitting |

• = Recommended spare part

FIGURE C2.4

