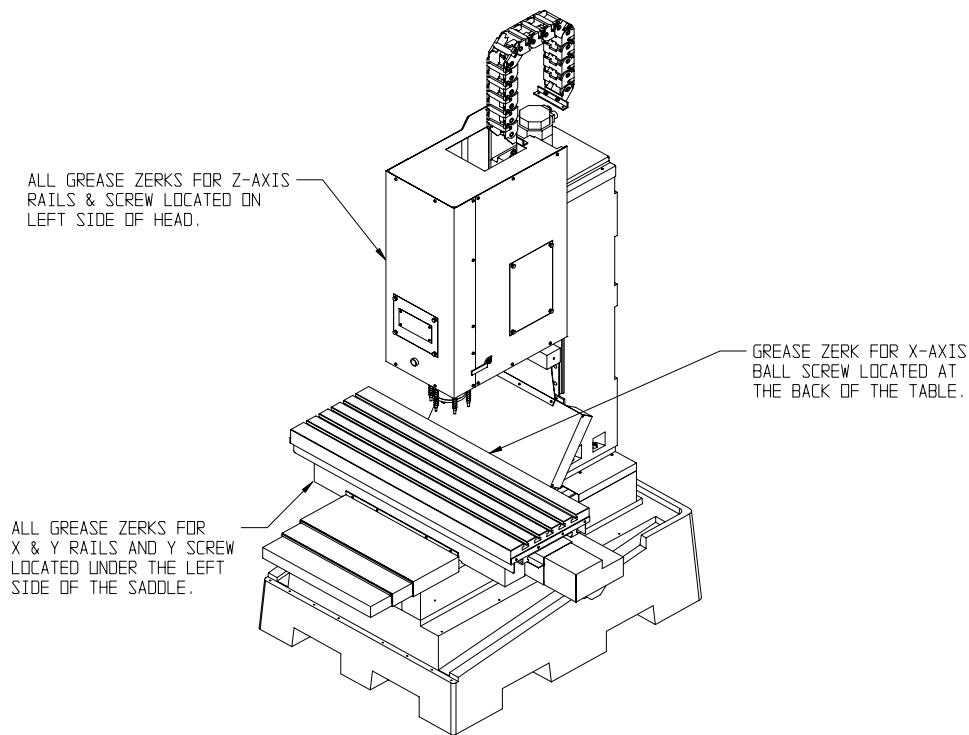


Machine Lubrication Instructions

NOTES:

1. USE MOBILITH AW SERIES MULTIPURPOSE EP GREASE OR OTHER EQUIVALENT FOR ALL LUBE POINTS. MACHINE SHOULD BE SERVICED ONCE A MONTH FOR PROPER OPERATION AND ACCURACY OF MACHINE. SEE PAGE TWO FOR SPECIFICATIONS.
2. CLEAN AND FILL AIR FILTER / REGULATOR / OILER EVERY WEEK FOR PROPER OPERATION OF ALL PNEUMATIC PARTS FILL WITH MARVEL No. 085, MOBIL VELOCITE No. 10 OR OTHER EQUIVALENT QUALITY AIR TOOL OIL. SEE PAGE TWO FOR SPECIFICATIONS.
3. MACHINES WITH AUTOLUBE OPTION USE MOBIL OIL VACTRA 2, AMOCO WAYTAC No. 68, SUNOCO SUNWAY LUBE No. 1180, OR EQUIVALENT QUALITY WAY OIL SEE PAGE TWO FOR SPECIFICATIONS.
4. MACHINES WITH 15,000 RPM AIR/OIL OPTION USE MOBIL OIL DTE 24, OR EQUIVALENT QUALITY SPINDLE OIL.



D	ADD DTE 24 TABLE	4703		10/00
C	REMOVE HEAT EXCHANGER	3909	N.M.	3/99
B	CHANGE GREASE SPECS.	3411	N.M.	2/98
A	ADD SPECIFICATIONS	3133	N.M.	6/97
REV.	DESCRIPTION	E.C.O. NO.	APP'D BY	DATE
MATERIAL/FINISH		 1400 MILL LANE 952-442-1410 WACONIA, MN 55387 USA		
STOCK/ASSY No.				
TOLERANCE UNLESS SPECIFIED		TITLE VM17 LUBRICATION DRAWING		
X .XXX +		APPLICATION PARTNER VM17		
X .XX ±		SCALE 15:1 DWG No 6-10-008-044 SIZE B		
X .X ±		DATE 02 JUN 97 DRAWN BY THOMPSON SHEET NO. 1 OF 2		
ANGLE +				

THIS ASSEMBLY USED ON VM16, VM17

MOBILITH AW SERIES, MULTIPURPOSE EP GREASE	
PRODUCT NUMBER	64352-8
NLGI GRADE	1
COLOR	GREEN
STRUCTURE	SMOOTH/TACKY
SOAP TYPE	LITHIUM COMPLEX
MINERAL OIL VISCOSITY	
cST AT 40°C	150
cST AT 100°C	13
SUS AT 100°F	750
SUS AT 210°F	70
ISO VISCOSITY GRADE	150
PENETRATION AT 23°C (77°F), WORKED	325
DROPPING POINT, ASTM D 2265, °F	475
TIMKEN OK LOAD, ASTM D 2509, lb	40
FOUR-BALL EP TEST, ASTM D 2596, WELD LOAD, kg	250
LOAD WEAR INDEX	40
FOUR-BALL WEAR TEST, ASTM D 2266, SCAR DIAMETER, mm, MAX	0.5
CORROSION PREVENTION, ASTM D 1743	PASS
WHEEL BEARING TEST, ASTM D 4290 MODIFIED, LEAKAGE, GRAM	5

MOBIL VELOCITE OIL No. 10	
PRODUCT NUMBER	60068-4
GRAVITY, API	32.0
POUR, °C (°F), max.	-4 (25)
FLASH, °C (°F), min.	182 (360)
VISCOSITY	
cST AT 40° C	22.0
cST AT 100° C	4.0
SUS AT 100° F	115
SUS AT 210° F	40
ISO VG	22
VISCOSITY INDEX	95
COLOR, ASTM D 1500	2.0
RUST PROTECTION, ASTM D 665	PASS
CINCINNATI MILACRON SPECIFICATION	P-45

MOBIL VACTRA OIL No. 2	
PRODUCT NUMBER	60049-4
SPECIFIC GRAVITY, 60/60F	0.88
POUR POINT, °C (°F), max.	-9 (16)
FLASH POINT, °C (°F), min.	244 (472)
VISCOSITY	
cST AT 40°C	68
cST AT 100°C	8.6
SUS AT 100°F	356
SUS AT 210°F	55
VISCOSITY INDEX	97
ISO VG	68
COLOR, ASTM D 1500	4
FZG, PASS STAGES	11
4 BALL WELD, kg, ASTM D 2783	160
4 BALL WEAR, mm, ASTM D 4172	0.22
COPPER CORROSION, ASTM D 130	1B
RUST, D665A	PASS
VICKERS V-104C, mg D 2882 (MOD)	-
CMCO, P-SPEC, APPROVAL	P-47
BIJUR PT 37-1 APPROVAL	PASS
OKUMA APPROVAL	PASS

MOBIL DTE 24	
PRODUCT NUMBER	60262-3
98 CMCS CODE (DRUM)	98020E
SPECIFIC GRAVITY	0.871
POUR POINT, °C (°F), max	-18 (0)
FLASH POINT, °C (°F), min	200 (392)
VISCOSITY	
cST AT 40°C	32
cST AT 100°C	5.3
SUS AT 100°F	165
SUS AT 210°F	44
ISO VISCOSITY GRADE	32
VISCOSITY INDEX	95
RUST PROTECTION, ASTM D 665, A & B	PASS
COLOR, ASTM D1500, max	3.5
FZG GEAR TEST STAGES	12
PASSED DIN 51534	

D	ADD DTE 24 TABLE	4703		10/00
C	REMOVE HEAT EXCHANGER	3909	N.M.	3/99
B	CHANGE GREASE SPECS.	3411	N.M.	2/98
A	ADD SPECIFICATIONS	3133	N.M.	6/97
REV.	DESCRIPTION	E.C.O. NO.	APP'D BY	DATE
MATERIAL/FINISH		 1400 MILL LANE 952-442-1410 WACONIA, MN 55387 USA		
STOCK/ASSY No.		TITLE VM17 LUBRICATION DRAWING APPLICATION PARTNER VM17 SCALE 15:1 DWG No 6-10-008-044 SIZE B DATE 02 JUN 97 DRAWN BY THOMPSON SHEET NO. 2 OF 2		
TOLERANCE UNLESS SPECIFIED				
X.XXX	±			
X.XX	±			
X.X	±			
ANGLE	±			