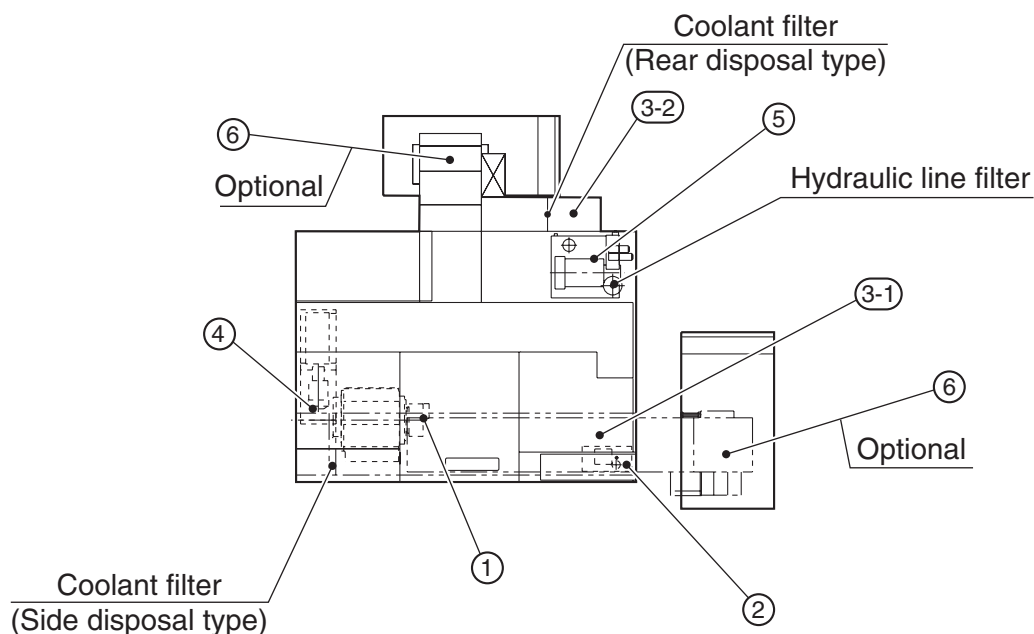


SECTION 4 INSPECTION/MAINTENANCE (FOR TROUBLE-FREE OPERATION)

Between centers: 500



LE11170R0400600020001

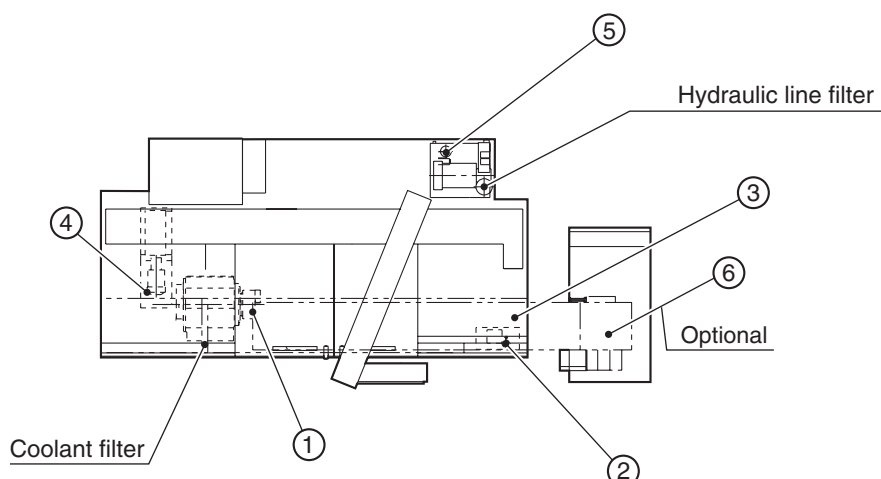
No.	Oiling Points	Quantity	Oil Used	(ISO)	Remarks
1	Chuck jaws	As needed	Refer to the instruction manual of the chuck.	-	Everyday when cleaning chuck jaws
2	Slideway centralized lubrication	4 liter (1.1 gal)	Shell Tonna Oil S68 (SHOWA SHELL SEKIYU)	G68	As needed
3-1	Coolant tank	175 liter (46.2 gal)	Hi-chip NC11 (Taiyu)* ¹	-	As needed
3-2	Coolant tank	195 liter (51.5 gal)			
4	Headstock cooling unit	14 liter (3.7 gal)	Mobil Velocite Oil No. 3 (ExxonMobil)	FC2	In 1 month after initial installation Every 6 months after that
5	Hydraulic power unit	20 liter (5.2 gal)	Mobil DTE Excel 32 (ExxonMobil)	HM32	In 1 month after initial installation Every 6 months after that
6	Chip conveyor (Note)	As needed	Mobilux EP2 (ExxonMobil)	XBCEA2	Replenish every 3 to 6 months.

*¹ Use NC11 diluted by 20 to 30 times with tap water or distilled water.
For the other makers' oils equivalent to the oils list above, refer to Lubricating Oil Specification on the following page.

Note: Chip conveyor is optional.

SECTION 4 INSPECTION/MAINTENANCE (FOR TROUBLE-FREE OPERATION)

Between centers: 1,000



LE11170R0400600020002

No.	Oiling Points	Quantity	Oil Used	(ISO)	Remarks
1	Chuck jaws	As needed	Refer to the instruction manual of the chuck.	-	Everyday when cleaning chuck jaws
2	Slideway centralized lubrication	4 liter (1.1 gal)	Shell Tonna Oil S68 (SHOWA SHELL SEKIYU)	G68	As needed
3	Coolant tank	260 liter (68.7 gal)	Hi-chip NC11 (Taiyu)* ¹	-	As needed
4	Headstock cooling unit	14 liter (3.7 gal)	Mobil Velocite Oil No. 3 (ExxonMobil)	FC2	In 1 month after initial installation Every 6 months after that
5	Hydraulic power unit	20 liter (5.2 gal)	Mobil DTE Excel 32 (ExxonMobil)	HM32	In 1 month after initial installation Every 6 months after that
6	Chip conveyor (Note)	As needed	Mobilux EP2 (ExxonMobil)	XBCEA2	Replenish every 3 to 6 months.

*¹ Use NC11 diluted by 20 to 30 times with tap water or distilled water.

For the other makers' oils equivalent to the oils list above, refer to Lubricating Oil Specification on the following page.

Note: Chip conveyor is optional.

SECTION 4 INSPECTION/MAINTENANCE (FOR TROUBLE-FREE OPERATION)**1-1. Lubricating Oil Specification**

Application	Code	SHOWA SHELL SEKIYU	ExxonMobil
Headstock Gearbox	CKB32	Shell Tellus Oil C32	Mobil DTE Oil Light
Spindle Bearing Lubrication Unit	FC10	Shell Tellus Oil C10	Mobil Velocite Oil No.6
Centralized Slideway Lubrication Unit (M-Turret, Ball Screw)	G68	Shell Tonna Oil S68	Mobil Vactra Oil No.2
	G220	Shell Tonna Oil S220	Mobil Vactra Oil No.4
Hydraulic Unit	HM32	Shell Tellus Oil S32	Mobil DTE Excel 32
M-tool Holders	(Grease)	Kyodo Yushi's Multemp PS No.2	Mobilux EP2
Master Jaw on Chuck	(Grease)	Molykoat EP grease (Dow Corning) or Kitagawa chuck grease for Kitagawa power chuck. For special chucks, refer to the instruction manual supplied with the chuck.	
Headstock Cooling Unit	FC2	Shell Tetra Oil 2	Mobil Velocite Oil No.3★
Turret, Ball Screw	XBCEA2	Alvania EP Grease 2	Mobilux EP2, Unirex N2
ATC Cam box	CKC150	Shell Omala Oil 150	Mobilgear 600 XP 150
Oil-mist, oil-air lubrication of spindle bearings	CKB32	ExxonMobil Mobil DTE Oil Light	

★ ISO viscosity grade: 2 mm²/S (40°C) or equivalent**Note**

- The above table is based on the JIS B6016-1 (ISO/TR 3498) standard.

Since we do not have any experience in using the oils other than those indicated bellow, selection should thus be made from them. Because slideway lubricating oil contains additives such as extreme-pressure additive, it could incur variety of troubles if reacting with other oils or coolant. Therefore, pay special attention to the use of slideway lubricating oil.

Headstock Gearbox = Mobil DTE Oil Light (ExxonMobil)

Spindle Bearing Lubrication Unit = Mobil Velocite Oil No.6 (ExxonMobil)

Centralized Slideway Unit G68 = Tonna Oil S68 (SHOWA SHELL SEKIYU)

Centralized Slideway Unit G220 = Tonna Oil S220 (SHOWA SHELL SEKIYU)

Hydraulic Unit = Mobil DTE Excel 32 (ExxonMobil)

M-tool holders = Kyodo Yushi's Multemp PS No.2

Headstock Cooling Unit = Mobil Velocite Oil No.3 (ExxonMobil)

Turret, Ball Screw = Mobilux EP2 (ExxonMobil)

Oil-mist, oil-air lubrication of spindle bearings = Mobil DTE Oil Light (ExxonMobil)

- As for service point or amount of lubricating oil of the machine, refer to the Instruction Manual of respective machine models.
- Lubricating oil used in common with coolant or lubricating oil used in common with hydraulic oil might cause corrosion of lubrication unit or turbidness of oils to result in lubrication failure, which, in turn, leads to damages on the slideway surface or ball screw. (We take no responsibility for the troubles caused by using the lubricating oil which is not our recommendation.)
- As for oil replenishment for the optional accessories such as special chucks or chip conveyor, refer to the Special Instruction Manual supplied with individual accessories.
- When slideway lubricating oil mixed with coolant and some trouble appears, contact your local Okuma representatives. They have optional accessories such as oil skimmer.