



PRODUCT STANDARD
SWITCHGEAR ENGINEERING
DIVISION

SG 14004
REV.03

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LUBRICATION CHART FOR ONLOAD TAPCHANGER SUB ASSEMBLIES.

1. SCOPE: This standard specifies the types of lubricants used in various sub assemblies of onload tapchanger.

2. OBJECTIVE: The objectives of this standard are
 - to provide lubrication plan to the assembly shop person for referring during use of lubricants in OLTC sub-assemblies.
 - to facilitate procurement of lubricants to the production planning division.

3. lubricating instruction:

Apparatus		Lubrication points	Lubrication specified by MR	Indigeneous equivalent Lubricant
Type	Assy.Group			
1	2	3	4	5
Drive shaft	coupling Bracket	Shaft joint	Grease SHELL 6432	LIMAPLEX 2
	5014388	coupling bolt 5051940		OR MOLYKOTE
				OR BR2 +
				OR OKS 410
	drive shaft	ball head		OR NERITAHV
	5022156			
	5022194	coupling bolt.		
	5052566	5051940		
	5069552			
	5068746			
5068748				
5022183				
5044448				
5022231				
5022239				
CD 6300	bevel gear	gear wheels	Grease SHELL 6432	
		ball & slide bearings.	1/3 filling	-do-
CD 6400	bevel gear			
M	energy accumulator.	guide pin 5047787 5047789	GLEITMO 920	MOLYKOTEG (Rapid-spray) Dow corning OR

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SUPPLIER LISTIS MODIFIED FOR SHELL6432 IN PAGE 5.

REV.	03	PRINTS TO :-		APPROVED -		
ALTD.	KIRTI	SWM(P) QCX	1 1	RKS		
APPD.	SKP			PREPARED	ISSUED	DATE
DATE.	26.10.12			YUP	RKG	30.4.93



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1	2	3	4	5
				MGS-321A (Paste -spray) OR OKS 510/511 OR MOLYKOTE 3484
M, V	upper gear unit	ball bearings Worm / gears 5068771 5085813 5085814 5085817 (Refer note 1 and 2)	Grease SHELL 6432 MOLYKOTE	LIMAPLES 2 OR BR-2 OR OKS 410 OR NERITAHV
M,V	Oil compartment	O-ring of fixed contact, bottom o-ring top o-ring and shaft seal	Gleitmo 750	OKS 1110
MA7	load gear with belt drive	breaking block 5048903 blocking shackle, bearing bush, 5051447,5452081 teeth of drive shaft. 5069552	Grease SHELL 6432	LIMAPLEX 2 OR MOLYKOTE BR2 + OR OKS410 OR NERITAHV
		ball bearing 5452035, 5401254	Grease SHELL 6432	-do-
		key ways of driving & driven gears.	Klueber staburags	SERVOGEM EP-2 OR SEFVOGEM EP-2 OR LAB SIL -44 Grease OR OKS 1110 OR MOLY KOTE FB 180
		bearing bush of hand shaft 5067389 threads of screws 5450855	SHELL SAE 10 W/30	SHELL SAE10W/30
		bevel gear of hand shaft. 5200594 5200600	Molykote G	MOLYKOTE -Gn (Paste/ Spray Dow corning OR GEAR GUARD OR OKS 200/201 (Paste /spray



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	control gear	All gears 5048983 5048984 5048990 5048991 5048994 5048995 All rubbing / sliding surface	SHELL 6432	LIMAPLEX 2 OR MOLYKOTE BR -2 + OR OKS 410 OR NERITAHV
	Cam operator.	All rubbing / sliding surface	Clueber CATENERA	SERVO GEM EP2 OR MOLYKOTE FB 180 OR OKS 475
	electrical limit switch	All rubbing / sliding parts	SHELL 6432	LIMAPLEX 2 OR MOLYKOTE BR -2 + OR OKS 410 OR NERITAHV
		Connecting bow & end position lever. 5048981	GLEITMO 920	MOLYKOTEG (Rapid-spray) Dow corning OR MGS - 321 A (Paste/ spray) OR OKS 510/511 OR MOLYKOTE 3484
	Position transmitter	contacts 5049024 5049025	SHELL FZ4	LIMAPLEX 1 OR OKS 2621 (Rapid spray) OK MOLYKOTE TTF 52
		All rubbing / sliding surface	SHELL 6432	LIMAPLEX 2 OR MOLYKOTE BR -2 + OR OKS 410 OR NERITAHV
MA9	load gear	worm 5066376 & worm gear, 5059301 All rubbing / sliding surface ball bearings 5452019 5452026 Helical gear Helical Gear 5066377	Turmopol grease 00	SERVOGEM EPO OR BR -3 Grease 00 OR MOLYKOTE LONGTERMOO OR OKS 428



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	position gear	gear wheels, All rubbing / surface	SHELL 6432	LIMAPLEX 2 OR MOLYKOTE BR -2 + OR OKS 410 OR NERITAHV
	5016591	5055584,		
	5016592	5055575,		
	Cam operator	All rubbing / sliding surface gear wheels	KLUEBER CATENERA KSBS	SERVO GEM EP2 OR BR-8 Grease OR MOLYKOTE FB 180 OR OKS 475
	5055566	5059302		
MA9	electrical limit switch	All rubbing / sliding surfaces	SHELL 6432	LIMAPLEX 2 OR MOLYKOTE BR -2 + OR OKS 410 OR NERITAHV
	Position transmitter	contacts	SHELL FZ4	LIMAPLEX 1 OR OKS 2621 (Rapid spray) OR MOLYKOTE TTF 52
		5049024 5049025		
		All rubbing / sliding surface	SHELL 6432	LIMAPLEX 2 OR MOLYKOTE BR -2 + OR OKS 410 OR NERITAHV
RS2001	housing	push buttons	SHELL 10	SHELL
		5015701 5L16914	W/30	10W/30

Note 1) The gear housing must be filled with grease upto the centre of the horizontal worm.

Note 2) Ball bearing at drive side of tap changer is not greased.

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ADDRESSES OF LUBRICANT SUPPLIERS

IMPORTED		INDIGENOUS		REMARKS
S.NO.	BRAND	SUPPLIER	BRAND	SUPPLIER
1.	SHELL 6432	M/S Neubauer mineral oil GmbH	SEVOPLEX LC 2	M/S IOCL 16, ARERA HILLS, JAIL ROAD, BHOPAL-462011
		84 Regensburg Sedanstrasse 21	OKS 410	HIMANSHU ENTERPRISES B-27,PADMANABH NAGAR NEAR SUBHAS NAGAR BHOPAL-462023
				M/S OKS speciality lubricants (India) Pvt Ltd 5/9 Primrose Road, Banglore - 560 025
				MOLYKOTE BR 2 + DOW CORNING INDIA PVT. LTD., WOCKHARDT TOWER,EAST WING, LEVEL-2, BANDRA-KURLA COMPLEX, BANDRA(EAST), MUMBAI -400051 EMAIL security-administrator@dow.com PHONE 4133048
				NERITA - HV Shell India Markets Private Limited Powai Plaza, 401-403, 4th Floor Hiranandani Business Park Powai, Mumbai - 400 076 Tel : +91 22 4036 3888 Fax : +91 22 4036 3847
2.	SHELL FZ4	M/S Neubauer Mineral oil GmbH 84 Regensburg sedanstrasse 21	LIMAPLEX 1	M/S Hindustan Petroleum Corp.Hindustan Bhawan shoorji vallabh Marg, POST 156 BOMBAY 400038
			OKS 2621 (Rapid spray)	M/S OKS speciality lubricants (India) Pvt Ltd 5/9 Primrose Road, Banglore - 560 025

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3.	SHELL SAE 10W/30	M/S Neubauer Mineral oil GmbH 84, Regensburg sedanstrasse 21	SERVO super ----- Multigrade ----- 10w/30	M/S Indian oil corp. 254e Dr Annie Basant Road prabhadevi Bombay - 400025
4.	Turmopol Grease 00	M/S Lubricant consult GmbH Von-Miller strasse.4 6457 Maintal-2	SERVO GEM EPO	M/S Indain oil corp. 254e Dr. Annie Besant Road, prabhadevi BOMBAY -400025
			BR -3 Grease 00	M/S BR Laboratories Bhadr-Raj chambers Navrangpura AHEMDABAD - 380009
			MOLYKOTE LONGTERM 00	M/S Urvashi chemical Corpn.
			OKS - 428	M/S OKS
5.	GLEITMO 920	M/S Glitromolybdan schmierstoffe GmbH post fach 1236 konigsberger - strasse 2 D-8057 Eching beiMuenchen	MOLYKOTE - G (Rapid spray) Dow-corning	M/S Urmil chemical corpn Near GPO, puribail, smurity Bldge 47 Mint Road, BOMBAY - 400 001



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M/S Jayantil J.Gandhi Corporation 404 Amit Industrial Estate, 61, Dr S.S Rao Road, parel, BOMBAY 400012	M/S B.R. Lubratories	M/S OKs	
MGS - 321 A (Paste/spray)	M/S OKs	M/S Urvashi chem. Corpn.	
MOLYKOTE 3484	MOLYKOTE -Gn (paste/spray) Dow corning	M/S B.R. Laboratories.	
MOLYKOTE -GNPLUS	OXS 200/201 (paste/spray)	M/S OKs	
6. MOLYKOTE -GNPLUS	SERVO GEM EP2	M/S Indian oil corpn.	
7. KLUEBER CATENARA KSB 8	BR-8 Grease	M/S B.R.Laboratories	
	MOLYKOTE FB180	M/S Urvashi chemical corpn. 61, Dr S.S Rao Road, parel Bombay 400012	
	OKS 475	M/S OKs	

M/S Klueber Lubrication Munchen KG
Geisenhausener strasse 7
D-8000 Munchen

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8. KLUEBER STABURGS NBU 30PTM	M/S Klueber Lubri- cation Munchen KG, Geisenhausener- strasse 70 D-8000 Munchen 70	SERVOGEM EP-2 SERVOGEM EP-3	M/S Indian oil Corpn.
-----	LAB SIL -44 Grease	-----	-----
-----	-----	OKS 1110	M/S OKS
-----	-----	MOLYKOTE FB180	M/S Urvashi chem. corpn.
-----	-----	-----	-----