


LONDON BUSES LIMITED
OVERHAUL OF GEARBOX - GB 32, GB 32T

The contract will cover the complete reconditioning of Gearbox LB Unit Nos. GB 32 and GB 32T . Such reconditioning to be in accordance with the Specification attached together with all Technical Data Sheets, Alteration Advices, Charts and other documents detailed therein and attached thereto.

APPROVED BY:

VEHICLE ENGINEERING MANAGER (BUSES) 

QUALITY MANAGER (BUSES)

ISSUE NO. 1

ISSUE DATE 11 SEP 1996

LONDON BUSES LIMITED

SPECIFICATION OF OVERHAUL OF GB 32 AND GB 32T GEARBOXES

1. The London Buses unit code GB 32 is an AEC D.182 air-operated epicyclic gearbox in a form to fit in the AEC Routemaster Vehicle. The GB 32T has been fitted with undersize drums and second-standard linings.
2. The unit will be supplied complete with electro-pneumatic valve block with transit cover for terminal box, connecting air pipes, speedometer generator drive with protective cover, front and rear coupling flanges, brake pump drive bracket, cover for speed sensitive alternator aperture, air gallery adaptor sealing cap, lifting bar.
3. The Unit is to be completely stripped down and thoroughly cleaned for inspection of individual components. All component parts worn beyond manufacturer's limits are to be replaced with new or reconditioned parts, unless otherwise permitted by LB documentation attached.
4. If circumstances permit components may be exchanged between units.
5. All replacement parts must conform dimensionally and physically with specification described in Manufacturer's Repair Manual or Parts List or as permitted by London Buses documentation attached. In particular brake-band material and filter elements used must be taken from the LB Approved Sources of Supply Register - see Charts 0399 and 0401 respectively (attached).

Alternative first and second speed planet gear assembly in accordance with LB Advice No. GB 1006A (attached) may be used.

Alternative reverse gear drum in accordance with LB Advice No. GB 1008A (attached) may be used.

Second-standard drums and linings may be used in gearbox sets in accordance with LB Advice No. GB 1063 (attached).

Oil pump cover seal facing may be reclaimed in accordance with LB Advice No. GB 1069 (attached).

Gaskets are to be made from 0.010" Klinger WB 1 material in accordance with LB Advice No. GB 1090 (attached).

6. After re-assembly the unit must comply with the requirements of the Quality Manager and London Buses Data Sheet No. GB 1 (attached).
7. A unit number plate must be fitted and clearly stamped with the following information:-

"LB Unit Number - GB 32" (or 32T as appropriate), date code, unit serial number (obtained from plate previously fitted) and suppliers' identification.
8. All apertures open to atmosphere to be blanked off with caps or tape.

Exposed threads or faces to be adequately protected from damage.
9. Any deviation from this specification must be approved in writing by the LB Quality Manager PRIOR to implementation.

LONDON BUSES LTD

SPECIFICATION NO. GB 32, GB 32T

ALTERATION ADVICES

GB 1006A
GB 1008A
GB 1063
GB 1069
GB 1090

TECHNICAL DATA SHEET

GB 1

CHARTS

0399
0401

BODY - ELECTRICAL - CHASSIS - COLLECTION EQUIPMENT - PROCEDURE - ALTERATION ADVISE

SUBJECT 1ST AND 2ND SPEED PLANET GEARS - ALTERNATIVE PROVIDED
 REASON FOR ALTERATION TO FACILITATE MAINTENANCE

ORIGIN Memo: Dev. Eng. (Chassis) / Chief Draughtsman (Road) dated 16.5.73 ref. 605/BK/G3

DESCRIPTION

When supplies of the RM first and second speed planet gears, Part No. A.E.C. D28120, are not available, it has been agreed that the complete 2MB first and second speed planet gear assembly, Leyland Part No. 1M1, 508973, can be used as an alternative.

The Leyland planet gear assembly must be used 100% as an alternative, when assembling the speed annulus, using the existing RM planet gear rivet, Part No. 3062D483.

The action of this advice applies ONLY when there is a no stock position of the RM gear.

Arrangement drawing or sketch No. For Garages

L.C.B.S.

RM 209

Vehicles affected
 L.T.E. ... 2614
 L.C.B.S. ... 209
 Total ... 2823

Codes affected
 L.T.E.
 RM 2614

SCHEDULE OF PARTS AFFECTED

Tr'ds Ref.	New No. for codes listed	Tr'ds Ref.	Cancelled No. for codes listed	Tr'ds Ref.	Existing No.	Description	No. off	Remarks
1M1	508973			AEC	D 28120	Planet Gear - 1st and 2nd Speed	A/R	
				LT	3062D483	Planet Gear Assembly	A/R	Alternative
						Rivet	A/R	

R.S.T.C. Min. No. 187-7-73C13		Completed JFP		WORKS ACTION ALDENHAM CHISWICK EFFRA ROAD PRIORITY FULL APPLICATION ASSEMBLY AS-B-WALLEN BODY-OVERHAUL CHASSIS-OVERHAUL UNIT-OVERHAUL PROCEDURE FOR MAINTENANCE		GARAGE ACTION PRIORITY	
Previous minutes		Checked <i>[Signature]</i>					
Companion advices		Passed <i>[Signature]</i>		STOCK ADVICE ACTION BY WORKS AND GARAGES WHEN STOCKS ARE EXHAUSTED		Material commitments Initial requirements Estimated rate per week	
L.T.E. Maintenance	Maintenance	Approved <i>[Signature]</i>					
L.C.B.S. Maintenance	Maintenance	Drawing/Issue advice					
Variation No.		Drawing/Issue advice		Estimated Initial maintenance stock			

ALTERATIONS

Issue date 1/3.8.73

1 2 3 4 5 6 7 8 9

ALTERATION ADVISE NUMBER
GB1006A

Sheet 1 of 1

SUBJECT REVERSE CLEARBOX DRUM
REASON FOR ALTERATION TO PROVIDE ALTERNATIVE DRUM
DESCRIPTION It has been found that the Leyland reverse drum, IML Part No. 500L27, is interchangeable with the A.E.C. drum, Part No. D29435, as fitted to a GB32 and 39. When the A.E.C. drum is not available the Leyland drum can be used as an alternative.
 The A.E.C. drum is to be given preference when ordering new parts.

ORIGIN MEMO. - DEV. ENG. (CLASS 3)/GILLEN DRUMEN, DATED 25.9.73 REF. 605/CMS/03
Arrangement drawing or sketch No. For Garages RM 2614
Codes affected L.T.E.
L.C.B.S. RM - 209
Vehicles affected L.T.E. 2614
L.C.B.S. 209
Total 2823

SCHEDULE OF PARTS AFFECTED

Tr'ds Ref.	New No. for codes listed	Tr'ds Ref.	Cancelled No. for codes listed	Tr'ds Ref.	Existing No.	Description	No. off	Remarks
IML	500L27			AEC	D 29435	Reverse Drum	1	
						Reverse Drum	1	Alternative only

R.S.T.C. Min. No. 299.11.73 06 Previous minutes	Compiled JEP		WORKS ACTION		STOCK ADVICE ACTION BY WORKS AND GARAGES WHEN STOCKS ARE EXHAUSTED	GARAGE ACTION
	Checked <i>[Signature]</i>		ALDENHAM	CHISWICK		
Companion advices	Passed <i>[Signature]</i>		PRIORITY			PRIORITY
	Approved <i>[Signature]</i>		FULL APPLICATION	PIECE PART ASSEMBLY	BODY OVERHAUL CHASSIS OVERHAUL UNIT OVERHAUL	
Variation No.	L.T.E. MAINTENANCE A/D	PROCEDURE FOR MAINTENANCE		Material commitments		Initial requirements
	L.C.B.S. MAINTENANCE A/D			Estimated rate per week		Estimated rate per week
Estimated initial maintenance stock						

MECHANICAL - ELECTRICAL - FINE SELECTION - PARTS - ALTERATION ADVICE

SUBJECT R.M. GEARBOX - REV. 1ST, 2ND AND 3RD SPEED BRAKE BAND ASSY - 2ND STD LINING INTRODUCED
REASON FOR ALTERATION TO REDUCE COST

DESCRIPTION

FOLLOWING THE SUCCESSFUL INTRODUCTION OF THICKER BRAKE BAND LININGS COMBINED WITH UNDERSIZE ANNULUS DRUMS ON DRUMLER GEARBOXES, IT HAS BEEN DECIDED THAT THE SAME ACTION IS TO BE TAKEN ON THE R.M. GEARBOX L.I. UNIT No GB32.

TO FACILITATE MAINTENANCE AND REDUCE COST, IT HAS BEEN DECIDED THAT AT UNIT OVERHAUL, DRUMS IN THE NEW CONDITION AND THOSE MACHINED UP TO 0.050 INCH DIAMETER UNDERSIZE ARE TO BE FITTED WITH STANDARD BRAKE BAND LININGS. IF HOWEVER DRUMS ARE TO BE MACHINED 0.1 INCH UNDERSIZE, THICKER BAND LININGS ARE TO BE FITTED.

IT IS ESSENTIAL THAT DRUMS OF THE SAME STANDARD ARE MAINTAINED IN COMPLETE SETS IN THE REV. 1ST, 2ND AND 3RD SPEED POSITIONS AND INSPECTION ARE TO ENSURE THE FOLLOWING. :-

- AFTER MACHINING OPERATION HAS BEEN CARRIED OUT ALL ANNULUS DRUMS 0.1 INCH DIAMETER UNDERSIZE ARE TO BE STAMPED WITH THE LETTER 'T'.
- GEARBOXES FITTED WITH 2ND STANDARD LININGS ARE TO BE STAMPED WITH THE SAME LETTER 'T' AFTER THE TYPE NUMBER ON THE UNIT PLATE DURING GEARBOX ASSEMBLY (I.E. GB32 FITTED WITH 2ND STD LININGS WOULD BE DESIGNATED GB32T)

Alt. Adv. Min. No. 84-12-80.C11	Compiled	WORKS ACTION		STOCK ADVISE	GARAGE ACTION
JTM Min. No. 197-11-80	H.P.	ABENHAM	CHISWICK	REORDER NUMBER	PRIORITY
Previous minutes	Checked	PRIORITY			
Companion Advices	Approved	FILE APPLICATION	PART ASSEMBLY		
L.T.E. Charge	Drawing Issue advice	AG-WHEN	BOB-OVERHAUL		
			GHAGGIE-OVERHAUL		
			UNIT-OVERHAUL		
		SPECIAL PROGRAMME			
		PROCEDURE FOR MAINTENANCE			
		RECONDITIONING PROCEDURE			

ALTERATIONS

ISSUE 2
 SEC 547 347
 15507
 KENNES SPEED
 15507

ISSUE 2
 SEC 547 347
 15507

ALTERATION ADVICE NUMBER
GB1063

3. TO ASSIST DURING THE GEARBOX ASSEMBLY STAGE, SECOND STANDARD DRUMS AND BRAKE BANDS FITTED WITH THICKER LININGS SHOULD ALSO BE CONSPICUOUSLY MARKED WITH ORANGE PAINT.

FUTURE ORDERS OF 2ND STANDARD LININGS ARE TO BE AS SHOWN ON L.T. DRAWING. 3061 D 536.

Issue date	1	2	1	5	1	2	3	4	5	6	7	8	9
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Compiled
Checked

H.P.

ALTERATION ADVICE NUMBER

GB1063

Sheet 2 of 3

BODY - MECHANICAL - ELECTRICAL - FARE COLLECTION - P.D.10 - ALTERATION ADVICE

SUBJECT OIL PUMP COVER - REPAIR WASHER INTRODUCED
REASON FOR ALTERATION TO PREVENT OIL LEAKS
ORIGIN WQN. W66 88
Codes affected L.T.E. R.M.
LC.B.S.
Vehicles affected L.T.E... 2, 6, 8, 9, 10...
 L.C.B.S.
 Total... 2, 6, 8, 9, 10...

DESCRIPTION
 WHEN THE ADJUSTMENT FACE FOR OIL SEAL PART NUMBER REC.5091-255 BECOMES CRACKED AND BROKEN, AN ALUMINIUM WASHER IS TO BE INTRODUCED AND ADHESED WITH LOCITE TO THE OIL PUMP COVER AS SHOWN BY L.T. DRAWINGS 3062 D 565 AND SK411E. THIS WILL PRESENT AN UNBROKEN SEATING FOR THE OIL SEAL AND PREVENT POSSIBLE OIL LEAKS. A TOOL FOR PRODUCING THIS WASHER IS IN EXISTENCE AT ALDENHAM WORKS.

Arrangement drawing or sketch No. for Garage

SCHEDULE OF PARTS AFFECTED

Tr'ds Ref.	New No. for codes listed	Tr'ds Ref.	Cancelled No. for codes listed	Tr'ds Ref.	Existing No. Use-up-stock	Description	No. off	Remarks
					GB32	GEAR BOX UNIT	1	REFERENCE
				REC	D34019	OIL PUMP COVER	1	"
	3062 D 565			REC	5091-255	OIL SEAL	1	"
	17551-207					WASHER	A/R	
						LOCITE	A/R	

Alt. Adv. Min. No. 154-12, 81, 66
JTM Min. No. 283-11-81
Previous minutes
Companion Advices
L.T.E. MAINTENANCE
L.C.B.S.
Variation No.
Compiled H.P.
Checked [Signature]
Passed [Signature]
Approved [Signature]
Drawing Issue advice GB1069
WORKS ACTION
 CHISWICK - ~~CHISWICK~~
 ALDENHAM
 PRIORITY
 PIECE - BODY-OVERHAUL
 PART - CHASSIS-OVERHAUL
 ASSEMBLY - UNIT-OVERHAUL
 SPECIAL PROGRAMME
 -PROCEDURE-FOR-MAINTENANCE
 RECONDITIONING PROCEDURE
STOCK-ADVISE
REPRESENTATIVE
PART-NUMBER
-GARANTEE-ACTION
-PRIORITY

ALTERATIONS
ALTERNATION ADVICE NUMBER GB1069
Issue date 1/14/52
3
4
5
6
7
8
9
Sheet of
L.T.E. - Chiswick Works - London W4 5RH
Office of the Mechanical Engineer - (Design) Specification Section
 208/317 (8)
 12M 5/76 605

BODY - MECHANICAL - ELECTRICAL - FARE COLLECTION - H.A.B.3 - ALTIATION ADVICE

SUBJECT RM GEARBOX GASKETS - CHANGE IN MATERIAL
 REASON FOR ALTERATION To PREVENT OIL LEAKAGE

DESCRIPTION FOLLOWING AN INSPECTION BY THE DEPARTMENT OF TRANSPORT TO ELIMINATE OIL SEEPAGE FROM JOINT FACINGS ON RM GEARBOX L1 UNIT NOS GB32-37, IT HAS BEEN DECIDED TO CHANGE THE EXISTING GASKETS PART NUMBERS REC D10341 AND REC D10342 TO GASKETS MADE FROM A NEW MATERIAL (KLINGER WBI 0.010 INCH THICK).
 FUTURE ORDER OF GASKETS ARE TO BE TO PART NUMBERS 3062D 576 3062D 577 AND 3062D 578.
 OLD GASKETS PART NOS REC D10341 AND D10342 ARE TO BE DISPOSED OF AS ARRANGED BY THE MATERIAL AND CONTRACT MANAGER BUSES.

NOTE: JOINTS MUST BE ASSEMBLED DRY WITH NO SEALANT.
 NOTE: CONTINUED AVAILABILITY OF PARTS MUST BE ASSURED FOR MAINTENANCE.

SCHEDULE OF PARTS AFFECTED

Trade Ref.	Flow No. for codes listed	Trade Ref.	Cancelled No. for codes listed	Trade Ref.	Existing No. for codes listed	Description	Remarks
				GB32	GB32	GEARBOX UNIT	REFERENCE
				GB37	GB37	GEARBOX UNIT	"
3062D 576	REC D10341					GASKET	- COVER - 1ST. AND 3RD. SPEED
3062D 577	REC D10342					GASKET	- COVER - REVERSE SPEED
3062D 578	REC D10341					GASKET	- REAR COVER - OUTPUT DRIVE

WORKS ACTION		STOCK ADVICE	
ALDIEMIAN	CHISWICK	REPRESENTATIVE	PART NUMBER
FUEL APPLICATION		NRE NO	SPEC. REF.
AS-B-JOINT	ASSEMBLY	128	M935
SPECIAL PROGRAMME			
PROCEDURE FOR MAINTENANCE			
RECONDITIONING PROCEDURE			

OTHER VEHICLE ENGINE (BUSES)
 MATERIAL & CONTRACT (TRAFFIC COUSSES)
 REF: 160/SS/PT/CP/4 DATED 28.1.85

Arrangement drawing or sketch No. for changes

Vehicles affected L.T.E. 1900
 Total 1900

Arrangement drawing or sketch No.

RM

ALTIATION ADVICE NUMBER
GB1090

Sheet of

(PRINTED)

TEST DATA FOR ROUTEMASTER GEARBOXES

LB UNIT NOS GB32
GB39

Air Pressure required 60 ± 2.5 psi

1. Mount the gearbox to the test stand and connect the air and electrical supplies to the electro-pneumatic valve unit.
 2. Fill the gearbox with oil (Stock No 17616-230) at 60-65°C until the correct level is reached as shown on the dipstick.
 3. Run the gearbox at 500 rev/min for 3 minutes to allow the oil to circulate. Stop the drive motor and bring the output shaft to rest. Re-check the oil level and top up as necessary.
 4. Sequentially select all gears (pausing in neutral) three times to check that they operate correctly.
 5. Each brake band should be 'bedded-in' for five minutes - with an input speed of 1250 rev/min the gear should be repeatedly engaged simultaneously with an applied load on the output shaft.
 6. With each gear engaged and running at an input speed of 1250 rev/min in the no load condition no undue noise from the gears should be evident.
 7. With each gear engaged and running at an input speed of 1250 rev/min the brake load should be applied. This should not give rise to any undue noise, sudden surge or excessive slip from the gears.
 8. Disconnect the brake load. Carry out the change speed sequence manually
between 1st and 2nd
2nd and 3rd
3rd and top
- The change between gears must be carried out without pausing in neutral. No excessive snatch should occur during the gear changes.
9. Ensure there are no oil or air leaks from the gearbox.
 10. Remove the top cover and check that the automatic adjusters have been operating satisfactorily and the settings are correct. The engaged settings are as follows:-

LONDON BUSES
OFFICE OF THE VEHICLE ENGINEERING MANAGER (BUSES)

ALTERATIONS	Box 4 Revised 2/11/61 Approved by J.M. 7/11/61 Was Signed W Box 112 Bus 112 order	ISSUE NO.	1						
DATE	11-1-61								
DESIGNED	MSF								

[MOUNTED]

GEAR	DIMENSION 'B'
1st	1.187
2nd	1.313
3rd	1.438
Reverse	1.25

Refer to Fig. 1 for identification of dimensions 'A' and 'B'. Dimension A should be varied to produce a final toggle setting figure of dimension 'B', which can be checked using setting gauge 352-27520.

11. Slacken back the adjusting nut half a turn for each gear in turn. Select each gear repeatedly (pausing in neutral each time) and check that the adjuster operates until the nut ceases to rotate in its original position. Recheck dimension 'B'.
12. Remove the gearbox from the test stand and drain the oil into the tank provided.

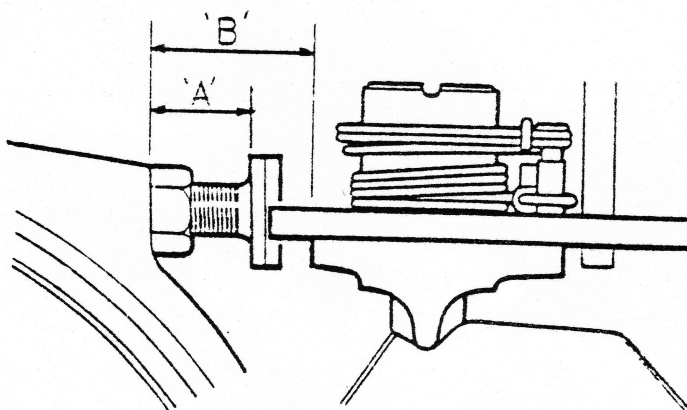


FIG. 1 TOGGLE SETTINGS

LONDON BUSES
OFFICE OF THE VEHICLE ENGINEERING MANAGER (BUS25)

ALTERATIONS	Issue by Revised with Ref. 100/154/715 7/1/85 was sheets 11 100 1/2 nos 11 & 12 added									
	ISSUE No.	F								
	DATE	11-1-85								
	SIGNED	M2F								

DESCRIPTION	USED ON	PART No.	QUANTITY	CONTRACTS No.	AP No.	INDICATOR No.	FLEET (GUARD) No.	17-1FCALAMT No.	FRAM No.	UCC INTERNATIONAL	FILTRON No. (POSSIBLY OTHER)	FAREY No.	CLAYTON No.	MOORE FOURBORN No.	LEVLAND No.	BIRK COOPER WHITEHEAD No.	VOITH/ACW No.	PRINTEL No.	SPEC No.
ENGINE OIL FILTER	RM-RHL (AEC)	APC-AP1072	1	AP1072	AP1072	AC26A	PF0112	CA1330										FMA 241	
ENGINE OIL FILTER	DMS (LEV)	LH-1001959	1	AZ1076	AP277	LF4005	AC26A	PF0112										FMA 1801	
ENGINE OIL FILTER (END)	2LS	LML-10006275	1	AZ1077	AP681	LF4007	AC26A	PF0112										FMA 1801	
ENGINE OIL FILTER (END)	2LS	LML-AC0225P	1	AZ1078	AP377	LF4008	AC26A	PF0112										FMA 1801	
ENGINE OIL FILTER	RL	LML-1001959	1	AZ039	AP208	LF4009	AC26A	PF0112										FMA 1801	
ENGINE OIL FILTER	M & L	MHD-1-2179	1	AZ039	AP208	LF4009	AC26A	PF0112										FMA 1801	
ENGINE AIR FILTER	DMS (B20)	CH1F19071	1	AZ037	AP249	PC100	AC26A	PF0112										FMA 1801	
ENGINE AIR FILTER	2LS (7-18)	LML-10006007	1	AZ038	AP292	PC100	AC26A	PF0112										FMA 1801	
ENGINE AIR FILTER	2LS (210-437)	LML-ACU0889	1	AZ039	AP248	PC100	AC26A	PF0112										FMA 1801	
ENGINE AIR FILTER	3LS	LML-10006009	1	AZ039	AP100	PC100	AC26A	PF0112										FMA 1801	
FILTER- AIR ASSEMBLY	RL	BCY-1004H	1	AZ037	AP100	PC100	AC26A	PF0112										FMA 1801	
ENGINE AIR FILTER	M, T & L	CHJAZA510	1	AZ037	AP100	PC100	AC26A	PF0112										FMA 1801	
FUEL FILTER CLOTH	RM-RHL	CM-7018-122	1	AZ009	AP327	PC100	AC26A	PF0112										FMA 1801	
FUEL FILTER	DL-LS-DMS	CM-7018-206	1	AZ010	AP829	PC100	AC26A	PF0112										FMA 1801	
FUEL FILTER-OIL HEAD	M & L	APC-AP7-108A	1	AZ013	AP118	PC100	AC26A	PF0112										FMA 1801	
FUEL FILTER-CHASSIS	M & L	MIG-5-0536	1	AZ012	AP106	PC100	AC26A	PF0112										FMA 1801	
GEARBOX OIL FILTER	DMS	APC-AP-261A	1	GP236	AP26	PC100	AC26A	PF0112										FMA 1801	
GEARBOX OIL FILTER	DL	APC-APM12219	1			PC100	AC26A	PF0112										FMA 1801	
GEARBOX OIL FILTER	T-3LS	LML-ACU0837	1			PC100	AC26A	PF0112										FMA 1801	
GEARBOX OIL FILTER	M	MCW-2485995	1			PC100	AC26A	PF0112										FMA 1801	
GEARBOX & TRANSFER BOX BREATHER FILTER	DMS	TEC-R1-32-10	1			PC100	AC26A	PF0112										FMA 1801	
BRAKE FLUID SUPPLY TANK	RM-RHL	APC-AP1011A	1	AP231		PC100	AC26A	PF0112										FMA 1801	
BRAKE FILTER-HYD. FILTER	T (111-1031)	LML-AAU006	1			PC100	AC26A	PF0112										FMA 1801	
BRAKE CHAMBER FILTER	I	LML-CAL008	1			PC100	AC26A	PF0112										FMA 1801	
BRAKE LINE FILTER	M & L (107OH)	CLD-10K-10	1			PC100	AC26A	PF0112										FMA 1801	
AIR SUSPENSION FILTER	LS	ABU 1022	1			PC100	AC26A	PF0112										FMA 1801	
COMPRESSOR AIR FILTER	RM-RHL	30550-1087	1			PC100	AC26A	PF0112										FMA 1801	
UNLOADER VALVE FILTER	RM-RHL	CLD-AP9325	1	AZ009	AP535	PC100	AC26A	PF0112										FMA 1801	
AUTO DRAIN VALVE FILTER	LS	CLD-24820	1			PC100	AC26A	PF0112										FMA 1801	
STEERING LINE FILTER	M	PFL-90010A	1			PC100	AC26A	PF0112										FMA 1801	
HEATING & VENT. FILTER	2LS & 3LS	GEN-172821	1			PC100	AC26A	PF0112										FMA 1801	
WIPPER LINE FILTER	M	TRI-52020	1			PC100	AC26A	PF0112										FMA 1801	

CHART No. **0401**
 FILTER / ELEMENT CHART
 NOTE: THESE ARE THE ONLY AUTHORIZED MANUFACTURERS / SUPPLIERS OF FILTERS / ELEMENTS THAT ARE TO BE USED ON THE ABOVE UNITS / SYSTEMS.
 DEPT. OF TECHNICAL SUPPORT INDUSTRIES
 1105/1106/1107/1108/1109/1110/1111/1112/1113/1114/1115/1116/1117/1118/1119/1120/1121/1122/1123/1124/1125/1126/1127/1128/1129/1130/1131/1132/1133/1134/1135/1136/1137/1138/1139/1140/1141/1142/1143/1144/1145/1146/1147/1148/1149/1150/1151/1152/1153/1154/1155/1156/1157/1158/1159/1160/1161/1162/1163/1164/1165/1166/1167/1168/1169/1170/1171/1172/1173/1174/1175/1176/1177/1178/1179/1180/1181/1182/1183/1184/1185/1186/1187/1188/1189/1190/1191/1192/1193/1194/1195/1196/1197/1198/1199/1200/1201/1202/1203/1204/1205/1206/1207/1208/1209/1210/1211/1212/1213/1214/1215/1216/1217/1218/1219/1220/1221/1222/1223/1224/1225/1226/1227/1228/1229/1230/1231/1232/1233/1234/1235/1236/1237/1238/1239/1240/1241/1242/1243/1244/1245/1246/1247/1248/1249/1250/1251/1252/1253/1254/1255/1256/1257/1258/1259/1260/1261/1262/1263/1264/1265/1266/1267/1268/1269/1270/1271/1272/1273/1274/1275/1276/1277/1278/1279/1280/1281/1282/1283/1284/1285/1286/1287/1288/1289/1290/1291/1292/1293/1294/1295/1296/1297/1298/1299/1300/1301/1302/1303/1304/1305/1306/1307/1308/1309/1310/1311/1312/1313/1314/1315/1316/1317/1318/1319/1320/1321/1322/1323/1324/1325/1326/1327/1328/1329/1330/1331/1332/1333/1334/1335/1336/1337/1338/1339/1340/1341/1342/1343/1344/1345/1346/1347/1348/1349/1350/1351/1352/1353/1354/1355/1356/1357/1358/1359/1360/1361/1362/1363/1364/1365/1366/1367/1368/1369/1370/1371/1372/1373/1374/1375/1376/1377/1378/1379/1380/1381/1382/1383/1384/1385/1386/1387/1388/1389/1390/1391/1392/1393/1394/1395/1396/1397/1398/1399/1400/1401/1402/1403/1404/1405/1406/1407/1408/1409/1410/1411/1412/1413/1414/1415/1416/1417/1418/1419/1420/1421/1422/1423/1424/1425/1426/1427/1428/1429/1430/1431/1432/1433/1434/1435/1436/1437/1438/1439/1440/1441/1442/1443/1444/1445/1446/1447/1448/1449/1450/1451/1452/1453/1454/1455/1456/1457/1458/1459/1460/1461/1462/1463/1464/1465/1466/1467/1468/1469/1470/1471/1472/1473/1474/1475/1476/1477/1478/1479/1480/1481/1482/1483/1484/1485/1486/1487/1488/1489/1490/1491/1492/1493/1494/1495/1496/1497/1498/1499/1500/1501/1502/1503/1504/1505/1506/1507/1508/1509/1510/1511/1512/1513/1514/1515/1516/1517/1518/1519/1520/1521/1522/1523/1524/1525/1526/1527/1528/1529/1530/1531/1532/1533/1534/1535/1536/1537/1538/1539/1540/1541/1542/1543/1544/1545/1546/1547/1548/1549/1550/1551/1552/1553/1554/1555/1556/1557/1558/1559/1560/1561/1562/1563/1564/1565/1566/1567/1568/1569/1570/1571/1572/1573/1574/1575/1576/1577/1578/1579/1580/1581/1582/1583/1584/1585/1586/1587/1588/1589/1590/1591/1592/1593/1594/1595/1596/1597/1598/1599/1600/1601/1602/1603/1604/1605/1606/1607/1608/1609/1610/1611/1612/1613/1614/1615/1616/1617/1618/1619/1620/1621/1622/1623/1624/1625/1626/1627/1628/1629/1630/1631/1632/1633/1634/1635/1636/1637/1638/1639/1640/1641/1642/1643/1644/1645/1646/1647/1648/1649/1650/1651/1652/1653/1654/1655/1656/1657/1658/1659/1660/1661/1662/1663/1664/1665/1666/1667/1668/1669/1670/1671/1672/1673/1674/1675/1676/1677/1678/1679/1680/1681/1682/1683/1684/1685/1686/1687/1688/1689/1690/1691/1692/1693/1694/1695/1696/1697/1698/1699/1700/1701/1702/1703/1704/1705/1706/1707/1708/1709/1710/1711/1712/1713/1714/1715/1716/1717/1718/1719/1720/1721/1722/1723/1724/1725/1726/1727/1728/1729/1730/1731/1732/1733/1734/1735/1736/1737/1738/1739/1740/1741/1742/1743/1744/1745/1746/1747/1748/1749/1750/1751/1752/1753/1754/1755/1756/1757/1758/1759/1760/1761/1762/1763/1764/1765/1766/1767/1768/1769/1770/1771/1772/1773/1774/1775/1776/1777/1778/1779/1780/1781/1782/1783/1784/1785/1786/1787/1788/1789/1790/1791/1792/1793/1794/1795/1796/1797/1798/1799/1800/1801/1802/1803/1804/1805/1806/1807/1808/1809/1810/1811/1812/1813/1814/1815/1816/1817/1818/1819/1820/1821/1822/1823/1824/1825/1826/1827/1828/1829/1830/1831/1832/1833/1834/1835/1836/1837/1838/1839/1840/1841/1842/1843/1844/1845/1846/1847/1848/1849/1850/1851/1852/1853/1854/1855/1856/1857/1858/1859/1860/1861/1862/1863/1864/1865/1866/1867/1868/1869/1870/1871/1872/1873/1874/1875/1876/1877/1878/1879/1880/1881/1882/1883/1884/1885/1886/1887/1888/1889/1890/1891/1892/1893/1894/1895/1896/1897/1898/1899/1900/1901/1902/1903/1904/1905/1906/1907/1908/1909/1910/1911/1912/1913/1914/1915/1916/1917/1918/1919/1920/1921/1922/1923/1924/1925/1926/1927/1928/1929/1930/1931/1932/1933/1934/1935/1936/1937/1938/1939/1940/1941/1942/1943/1944/1945/1946/1947/1948/1949/1950/1951/1952/1953/1954/1955/1956/1957/1958/1959/1960/1961/1962/1963/1964/1965/1966/1967/1968/1969/1970/1971/1972/1973/1974/1975/1976/1977/1978/1979/1980/1981/1982/1983/1984/1985/1986/1987/1988/1989/1990/1991/1992/1993/1994/1995/1996/1997/1998/1999/2000/2001/2002/2003/2004/2005/2006/2007/2008/2009/2010/2011/2012/2013/2014/2015/2016/2017/2018/2019/2020/2021/2022/2023/2024/2025/2026/2027/2028/2029/2030/2031/2032/2033/2034/2035/2036/2037/2038/2039/2040/2041/2042/2043/2044/2045/2046/2047/2048/2049/2050/2051/2052/2053/2054/2055/2056/2057/2058/2059/2060/2061/2062/2063/2064/2065/2066/2067/2068/2069/2070/2071/2072/2073/2074/2075/2076/2077/2078/2079/2080/2081/2082/2083/2084/2085/2086/2087/2088/2089/2090/2091/2092/2093/2094/2095/2096/2097/2098/2099/2100/2101/2102/2103/2104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