

Recommendation of Committee on 'Policy on Procurement of Spares of Track Machines'

Authority: Railway Board Letter No.2016/Track/III/TK/4 dated 29.06.2016

1. Railway Board vide referred letter has constituted a committee of seven SAG officers for framing Policy on Procurement of spares for Track Machines. The members of the committee are:

(i)	ED/TM/RDSO	-	Convener
(ii)	CE/TMC/NCR	-	Member
(iii)	CE/TM/SCR	-	Member
(iv)	CE/TMC/NR	-	Member
(v)	CE/TMC/CR	-	Member
(vi)	CE/TMC/ER	-	Member
(vii)	Sr. Professor, IRICEN	-	Member

2. Terms of reference:

- (a) To study the existing system of procurement of spares for Track Machines.
- (b) To suggest the improvement over the existing system of sourcing spares for track machines keeping in view of life cycle cost of track machines and to frame a uniform policy on procurement procedure of spares for track machines to be adopted on IR.

3. Discussion:

The safety of running trains is paramount on a railway system and maintaining the track to safe standards is vital for running of trains. Indian Railways has shifted from manual system of track maintenance to mechanized system of maintenance. Track machines are utilized for regular track maintenance, periodic track maintenance as well as for track renewals.

It is, therefore, very important to keep the track machines in good health by a developing a robust maintenance system. Indian Railways Track Machine Manual prescribes the various maintenance schedules for different types of machines. The maintenance of machines is carried out by Zonal Railways and by centralized POH workshops.

Most of the machines working on IR are imported as of now. The design of a track machine is a result of lot of R&D and is quite complicated. During several years of experience, Railways have been able to identify some components which are

purchased by OEM from a recognized manufacturer (branded) and can be obtained from the authorized dealer of the brand at a competitive cost. Some other parts primarily mechanical in nature have also been developed by local vendors and found to be performing satisfactorily. Other parts/components are procured from OEM. Effort is being made to further decipher equivalent branded/local parts and search for equivalent parts is a continuous process. The search for equivalent parts has to be done very cautiously since one incompatible part can affect several other parts/assemblies adversely and may lead to heavy damages/immobilization of machine for a long time. Any failure of the track machine during the traffic block is treated as accident and affects the train operation.

i) It is observed by the committee that:

- Unit cost of operation of various machines on Indian Railways was analyzed and it is seen that the cost of spares constitutes approximately 8% to 10% of the unit cost of operation. However, the cost of the spares for the machines is dependent on the condition and the age of the machine.
 - The selection of source of procurement of spares is critical to the health and performance of machines and any failure of the machine not only results in financial loss to the Railway but also affects the maintenance of the track and may affect the train operations adversely and also lead to unsafe conditions for running trains. The failure of the machines also shakes the confidence of the railway administration to grant traffic blocks for their operation.
 - The procurement of spares being done at present is from the following sources.
 - a) Original Equipment Manufacturer(OEM)
 - b) Branded items from different suppliers
 - c) Manufactured items on the basis of RDSO drawing and specifications
 - d) Manufactured items on the basis of OEMs sample.
 - The committee observes that detailed technical specifications of most of the parts cannot be prepared being patented items of the machine manufacturer. The committee is, therefore, of unanimous view that till the time adequate local capacity and capabilities are established for availability of reliable equivalent spare parts of the track machines based on fitment and functional requirements, most of the items should be procured either from OEM or from already identified brands used by the original part manufacturer for reliability and longer life. This is necessary for ensuring good health of the machines which are vital for track maintenance and safety of the running trains as discussed in para 3 above.
- ii) The committee deliberated upon the list of critical items compiled by RDSO for track machines and broadly identified the items to be procured from OEM/original

item manufacturer, those to be procured from specific manufacturer (branded items) and items to be procured from local vendors (own make items).

- iii) The committee observed that there is large number of items being used and decided to nominate a sub-committee of the experienced officers to go into the details of the various components being used in the machines and classify them in various categories based on the past experience on Indian Railways. A subcommittee of the following officers working in CPOH workshops, RDSO and zonal railways were nominated to compile the list of spares in various categories.

1. Shri. D. Satyanarayana, Dy.CE/TM/SECR
2. Shri. S.K.Asthana, XEN/TMC/HQ/ALD
3. Shri. Muslim Ahmed, ARE/TM/RDSO
4. Shri. S. D. Mahajan, AEN/TM/WR
5. Shri. K. Srinivasa Rao, AEN/TM/RYP

The list of items has been classified in following categories:

- a) Items to be procured from OEM
- b) Items to be procured from branded suppliers.
- c) Items to be procured from local manufacturers

Since there is a huge list of items being used on Track Machine, the subcommittee has considered items which are being procured by CPOHs/zonal railways at present. The items which are not included in any of the annexures at present should be procured by Zonal railway/CPOH as OEM/Branded/Own make depending upon the type and criticality of the item with the approval of CE/Track Machines. The details of the same should be advised to RDSO duly recommending as per para 6 for deliberations by the standing committee for inclusion in appropriate list.

3.1. OEM/Branded/Own make

3.1.1. **OEM items:** The units/components for which no brand has been identified till now nor any drawing and specification has been developed by RDSO or railways are to be procured from OEM and is enclosed as Annexure-I. As of now, there are 4721 items in this category. The following types of item mainly are taken in Annexure-I.

- i) Hydraulic filters used on track machine and other hydraulic components for which no brand has been identified till date.
- ii) All types of printed circuit boards (PCB) used on track machine and their components.
- iii) ZF gear box and its spares.

- iv) Most of the Hydraulic valves, pumps and motors for which no brand has been identified/used.
- v) Electronic spares not identified for any brand like data cable, gauges, digital display, sensor and switches.
- vi) Pneumatic valves used in brake circuit including brake cylinder.
- vii) Transmission gear boxes and their housing, cardon shafts
- viii) Clutch assemblies of BCM/FRM machines.
- ix) Engine spares
- x) Hydraulic coolers and radiators

3.1.2. **Branded items:** Branded items include those items which are brought out items of OEM and equivalent items of other reputed manufacturers used and tested successfully either by CPOH or zonal railways. As on date, a list of 1283 items has been included in this category and is given in Annexure-II. The brand name has also been included in the list. Mainly following type of items are taken in this category:

- i) Hydraulic pump and motor for which brand is already identified and established.
- ii) Hydraulic hoses, pneumatic hoses, hydraulic and pneumatic gauges, pneumatic valves and cylinders.
- iii) Transducer, potentiometers, cables, lights and batteries.
- iv) Most of the bearings.
- v) Hydraulic seals, rotary seals for axles and gear boxes.
- vi) Some of the hardware such as important fasteners, HTS bolts etc.
- vii) Hydraulic and pneumatic adopters
- viii) Accumulators

3.1.3. **Own make items:** Own make items include those units / components for which drawing and specification have been developed by RDSO/CPOH/zonal railways. The items for which drawings and specifications have been developed by RDSO are included in the list as Annexure-III(A). The items being procured by CPOH/zonal railways for which they have developed their own drawing and specification have been included in the list as Annexure- III(B).

3.2. **Spare Part Numbering (SPN) system**

Each and every spares has been assigned a 11 digits identification number henceforth called **SPN (Spare Part Number)**. There are six types of coding number for proper nomenclature such as **A.BB.CCCC.D.EE.F**. Meaning of each letter and group of letters are deliberated as under-

A	Main Group
BB	Two digit sub group
CCCC	Four digit serial number of component/unit
D	OEM/Branded Items/Own make Items
EE	Indian Railway/Zonal Railway
F	Check digit (sum of all above nine digits in single digit)

SPN number will be followed by two alphabets for identification of the manufacturer of the machine or the engines. These two alphabets will be used only for the purpose of sorting by the user and not for indenting purpose.

- i) First digit marked as **A** has been allotted for main group of machine assemblies with 1 to 9 such as hydraulics, electronics, tamping unit etc. Details of sections are given in Para 3.3
- ii) Second and third digit marked as **BB** has been allotted for sub group as given in Para 3.4
- iii) Fourth, fifth, sixth and seventh digit marked as **CCCC** has been allotted for serial number of component/unit in each sub group with 0001,0002 and so on as per Annexure-I, II & III.
- iv) Eighth digits marked as **D** has been allotted for classification of item under the head of OEM, Branded and Own make etc.

Category	Code
OEM Items	1
Branded Items	2
Own Make Items	3

- v) Ninth and tenth digits marked as **EE** for identifying the SPN allotted for Indian Railways or by Zonal Railway as under :

Railway	Code
Indian Railway	01
CPOH/ALD	02
CPOH/RYP	03
CPOH/ER	04
CPOH/WR	05
Central Railway	06
Eastern Railway	07
East Central Railway	08

Railway	Code
East Coast Railway	09
Northern Railway	10
North Central Railway	11
North Western Railway	12
North Eastern Railway	13
North Frontier Railway	14
Western Railway	15
West Central Railway	16
Southern Railway	17
South Eastern Railway	18
South Western Railway	19
South Central Railway	20
South East Central Railway	21
South Coast Railway	22
Metro Railway, Kolkata	23

Further during periodical updating of the list, Zonal Railway items will be included in Indian Railway list by standing committee as per para 6.

- vi) Eleventh digits marked as **F** is the check sum of sum for all previous 10 digits.
- vii) The committee has limited it's scope for assigning SPN for spares for track machines and consumables. Other items such as stock items, T&P etc. have not been considered for which separate system of procurement is existing.

3.3. Main Group

All Items of Track machine have been classified under nine main groups/assemblies with unique numeral as under:

Main Groups	Code
Engine & Compressor	1
Hydraulics	2
Pneumatics	3
Electrical & Electronics	4
Axle & Gear Box	5
Tamping Unit & Lifting Unit	6

Main Groups	Code
Bearings	7
Hardware, General Machine items and Consumables	8
Rubber Items	9

3.4. Sub group

Items/spares of each main group are classified in following subgroups for its identification.

S.N.	Main Group	Sub Group	Code
1	Engine & compressor	Cummins	01
		Deutz	02
		Greaves	03
		Kirlosker	04
		SUN	05
		Lombardier	06
		Mahindra	07
		Caterpillar	08
		Ashok Leyland	09
2	Hydraulics	Hydraulic Pumps	01
		Hydraulic Motors	02
		Hydraulic Valves	03
		Hydraulic Cylinders & Accessories	04
		Critical Hydraulic Hoses & Fittings	05
		Hydraulic Hoses & Fittings	06
		Hydraulic coolers, accumulators and others	07
		Hydraulic Filters	08
		Hydraulic Seals	09
		Hydraulic Adaptors	10
		Hydraulic Gauges	11
3	Pneumatic	Pneumatic Valves	01
		Pneumatic Brake System	02
		Pneumatic Cylinders	03
		Pneumatic Hoses	04
		Pneumatic Adapters	05
		Pneumatic Others	06
		Pneumatic Seals	07

S.N.	Main Group	Sub Group	Code
4	Electrical & Electronics	PCB, Power Supply & Transformer	01
		Relay, IC, Transistor, Capacitor, Diode, Coil & Rectifier	02
		Switch & Contact Element	03
		Gauges, Sensors, LED, Encoders & Indicators	04
		Transducer, Potentiometer & Resistance	05
		Pendulum	06
		Electricals Cables	07
		Circuit Breakers, Fuses, Coupler, Socket, Plug, Chord Wire & Angle Gear	08
		Fans, All Lights, Battery, Self-Starter, Alternator & Motor	09
		ALC, Panel, CWS, CMS, DAR & DRP	10
5	Gear Box & Axles	ZF Gear Box	01
		Gear Box Housing	02
		Gears & Shafts	03
		Flanges & Couplings	04
		Cardan Shaft	05
		Pins, Bushes and Others	06
		Axles & Axle Assembly Complete	07
		Wheels	08
		Bogie & Housing	09
		Mechanical Brake assembly & Torque plates	10
		Sensing unit	11
		BCM Clutch Assemblies	12
		Complete Gear Box	13
6	Tamping and Lifting Units	Sq. Cylinder, Tool Tilting Cylinder	1
		Taming Unit Gear Box/Tamping Bank	2
		Taming Arms	3
		Vibration Shaft	4
		Guide Rod, C R Bolts, Sleeve, Pins & Other miscellaneous	5
		P.B. Bushes	6
		Fly Wheel, Flanges, Spacers, Couplers & Bracket	7
		Tamping Tools	8

S.N.	Main Group	Sub Group	Code
		Auto Greasing	9
		Tamping Unit Sliding	10
		Lifting Unit Spares	11
7	Bearings	Ball Bearing	01
		Cylindrical Roller Bearings	02
		Spherical Roller Bearings	03
		Taper Roller Bearings	04
		Axial Thrust Bearings	05
		Rocker Bearings	06
		Pivot Bearings	07
		PG Bush	08
		Special Bearings	09
8	General Machine items, Hardware and Consumables	Allen Bolts	01
		Hexagonal Head Bolts	02
		Washers	03
		Split Pins	04
		CSK & Special Bolts	05
		Grub Screw, Machine Screw & Nuts	06
		All Tamper General except HOTSTAB	07
		BCM General	08
		FRM General	09
		BRM General	10
		PQRS General	11
		TRT General	12
		T-28 General	13
		DGS General	14
		UTV & RBMV General	15
		RGM General Component	16
		Other Miscellaneous items	17
		Consumables/Paints	18
		Belts	19
		VPR General Items	20
		HOTSTAB General Items	21
		HOBCM General Items	22
		MDU General Items	23
9	Rubber Items	Engine Mounting Pad	01
		Cabin & Other Mountings	02
		Conveyor Belts	03

S.N.	Main Group	Sub Group	Code
		Couplings	04
		Other Rubber Items	05
		Brooms	06
		Tamping Unit Seals	07

3.5. **Category of spares:** SPN are being allotted as explained below as example for SPN 10100011015:

SPN	1	01	0001	1	01	5
	Engine	Cummins Spare	Serial no. of Spare	PAC Item	Indian Railways	Checksum for Sum of 10 digits

Components of all types of track machines used over Indian railways have been discussed on the basis of criticality and functional requirement including existing procedure of procurement being followed by both CPOH and zonal railways. The Category of spares along with SPN is to be uploaded in TMS. As of now 178 categories have been identified for Indian Railway as under:

Category.	SPN	Main Group	Sub Group	PAC/Branded/Own Make	Remarks	No. of Items
1.	1.01.XXXX.1.01.Y	Engine & compressor	Cummins	PAC	All items of Cummins Engine except those for which reputed brands are available	429
2.	1.01.XXXX.2.01.Y	Engine & compressor	Cummins	Branded	Any other items of reputed brands used in lieu	00
3.	1.02.XXXX.1.01.Y	Engine & compressor	Deutz	PAC	All items of Deutz Engine except those for which reputed brands are available	996
4.	1.02.XXXX.2.01.Y	Engine & compressor	Deutz	Branded	Any other items of reputed brands used in lieu	00
5.	1.03.XXXX.1.01.Y	Engine & compressor	Greaves	PAC	All items of Greaves Engine except those for which reputed brands are available	103

6.	1.03.XXXX.2.01.Y	Engine & compressor	Greaves	Branded	Any other items of reputed brands used in lieu	00
7.	1.04.XXXX.1.01.Y	Engine & compressor	Kirloskar	PAC	All items of , Kirloskar Engine except those for which reputed brands are available	84
8.	1.04.XXXX.2.01.Y	Engine & compressor	Kirloskar	Branded	Any other items of reputed brands used in lieu	00
9.	1.05.XXXX.1.01.Y	Engine & compressor	SUN	PAC	All items of , SUN Engine except those for which reputed brands are available	118
10.	1.05.XXXX.2.01.Y	Engine & compressor	SUN	Branded	Any other items of reputed brands used in lieu	00
11.	1.06.XXXX.1.01.Y	Engine & compressor	Lombardini	PAC	All items of , Lombardini Engine except those for which reputed Brands are available	00
12.	1.06.XXXX.2.01.Y	Engine & compressor	Lombardini	Branded	Any other items of reputed brands used in lieu	00
13.	1.07.XXXX.1.01.Y	Engine & compressor	Mahindra	PAC	All items of , Mahindra Engine except those for which reputed brands are available	00
14.	1.07.XXXX.2.01.Y	Engine & compressor	Mahindra	Branded	Any other items of reputed brands used in lieu	00
15.	1.08.XXXX.1.01.Y	Engine compressor	Cater pillar	PAC	All items of Caterpillar Engine except those for which reputed brands are available	16
16.	1.08.XXXX.2.01.Y	Engine & compressor	Cater pillar	Branded	Any other items of reputed brands used in lieu	00
17.	1.09.XXXX.1.01.Y	Engine & compressor	Ashok Leyland	PAC	All items of Ashok Leyland Engine except those for which reputed brands are available	00
18.	1.09.XXXX.2.01.Y	Engine & compressor	Ashok Leyland	Branded	Any other items of reputed brands used in lieu	00
19.	2.01.XXXX.1.01.Y	Hydraulics	Hydraulic Pumps	PAC	Pumps for which no brand is identified till now	23
20.	2.01.XXXX.2.01.Y	Hydraulics	Hydraulic Pumps	Branded	Pumps which are identified for one to one replacement and used in lieu	89

21.	2.02.XXXX.1.01.Y	Hydraulics	Hydraulic Motor	PAC	Motors for which no brand is identified till now and used in lieu	11
22.	2.02.XXXX.2.01.Y	Hydraulics	Hydraulic Motor	Branded	Motors which are identified for one to one replacement and used in lieu	39
23.	2.03.XXXX.1.01.Y	Hydraulics	Hydraulic Valve	PAC	Valves for which no brand is identified till now	116
24.	2.03.XXXX.2.01.Y	Hydraulics	Hydraulic Valve	Branded	Valves which are identified for one to one replacement and used in lieu	63
25.	2.04.XXXX.1.01.Y	Hydraulics	Hydraulic Cylinders	PAC	BCM, FRM, Supporting cylinders, Tamping unit lifting lowering cylinder & Hook up/down cylinders of tampers	131
26.	2.04.XXXX.3.01.Y	Hydraulics	Hydraulic Cylinders	OWN	All Other than above Cylinders	6
27.	2.05.XXXX.2.01.Y	Hydraulics	Critical Hydraulic Hose	Branded	Super high pressure hoses (GH506/4SH)	2
28.	2.06.XXXX.2.01.Y	Hydraulics	Hydraulic Hose	Branded	All other pressure & return hydraulic hoses	24
29.	2.07.XXXX.1.01.Y	Hydraulics	Hydraulic cooler and accumulators	PAC	Hydraulic coolers and accumulators for which no brand is identified till now	3
30.	2.07.XXXX.2.01.Y	Hydraulics	Hydraulic cooler and accumulators	Branded	Hydraulic coolers and accumulators which are identified for one to one replacement and used in lieu	7
31.	2.08.XXXX.1.01.Y	Hydraulics	Hydraulic Filters	PAC	All hydraulic filters for which no brand is identified till now	104
32.	2.09.XXXX.1.01.Y	Hydraulics	Hydraulic Seals	PAC	Radial seals and Seals of cylinders which are being procured through OEM	83
33.	2.09.XXXX.2.01.Y	Hydraulics	Hydraulic Seals	Branded	Seals for other hydraulic cylinders	33
34.	2.10.XXXX.2.01.Y	Hydraulics	Hydraulic adopter	Branded	All end connections	105
35.	2.10.XXXX.1.01.Y	Hydraulics	Hydraulic adopter	PAC	All end connections	1

36.	2.11.XXXX.1.01.Y	Hydraulics	Hydraulic gauges	PAC	Hydraulic gauges which are not identified for one to one replacement and used in lieu	12
37.	2.11.XXXX.2.01.Y	Hydraulics	Hydraulic gauges	Branded	Hydraulic gauges which are identified for one to one replacement and used in lieu	11
38.	3.01.XXXX.1.01.Y	Pneumatic	Pneumatic Valves	PAC	All Critical valves for which no brand is identified till now	67
39.	3.01.XXXX.2.01.Y	Pneumatic	Pneumatic Valves	Branded	Hydraulic coolers and accumulators which are identified for one to one replacement and used in lieu	28
40.	3.02.XXXX.1.01.Y	Pneumatic	Pneumatic Brake System	PAC	All brake circuit components being safety item	51
41.	3.03.XXXX.1.01.Y	Pneumatic	Pneumatic Cylinders	PAC	Pneumatic Cylinders for which no brand is identified till now	27
42.	3.03.XXXX.2.01.Y	Pneumatic	Pneumatic Cylinders	Branded	Pneumatic Cylinders which are identified for one to one replacement and used in lieu	40
43.	3.04.XXXX.2.01.Y	Pneumatic	Pneumatic Hose	Branded	Reputed brand as per IS specs.	5
44.	3.05.XXXX.2.01.Y	Pneumatic	Pneumatic Adapters	Branded	All end connections in Pneumatic circuit	0
45.	3.06.XXXX.1.01.Y	Pneumatic	Pneumatic Others	PAC	Pneumatic items for which no brand is identified till now	25
46.	3.06.XXXX.2.01.Y	Pneumatic	Pneumatic Others	Branded	Pneumatic items which are identified for one to one replacement and used in lieu	2
47.	3.06.XXXX.3.01.Y	Pneumatic	Pneumatic Others	Own	Own make items for which only drawing or samples are available.	0
48.	3.07.XXXX.1.01.Y	Pneumatic	Pneumatic Seals	PAC	Seals of cylinders which are under OEM list including Brake Cylinder.	12
49.	3.07.XXXX.2.01.Y	Pneumatic	Pneumatic Seals	Branded	Seals of cylinders which are under branded category.	12
50.	4.01.XXXX.1.01.Y	Electrical & Electronics	PCB, Power Supply & Transformer	PAC	All PCBs	312

51.	4.02.XXXX.1.01.Y	Electrical & Electronics	Relay, IC, Transistor, Capacitor, Diode, Coil & Rectifier	PAC	Due to functional requirement	207
52.	4.02.XXXX.2.01.Y	Electrical & Electronics	Relay, IC, Transistor, Capacitor, Diode, Coil & Rectifier	Branded	Items which are manufactured by reputed makes and identified for one to one replacement	2
53.	4.03.XXXX.1.01.Y	Electrical & Electronics	Switch & Contact Element	PAC	Switch & Contact for which no brand is identified till now	148
54.	4.03.XXXX.2.01.Y	Electrical & Electronics	Switch & Contact Element	Branded	Switch & Contact which are identified for one to one replacement and used	22
55.	4.04.XXXX.1.01.Y	Electrical & Electronics	Gauges, Sensors, LED, Encoder & Indicators	PAC	Items for which no brand is identified till now	161
56.	4.04.XXXX.2.01.Y	Electrical & Electronics	Gauges, Sensors, LED, Encoder & Indicators	Branded	Items which are identified for one to one replacement and used in lieu	07
57.	4.05.XXXX.1.01.Y	Electrical & Electronics	Transducer, Potentiometer & Resistance	PAC	Being critical on accuracy and functional point of view	232
58.	4.05.XXXX.2.01.Y	Electrical & Electronics	Transducer, Potentiometer & Resistance	Branded	Items which are manufactured by reputed makes and identified for one to one replacement	09
59.	4.06.XXXX.1.01.Y	Electrical & Electronics	Pendulum	PAC	All types of pendulums and their components	10
60.	4.06.XXXX.2.01.Y	Electrical & Electronics	Pendulum	Branded	Pendulum items which are manufactured by reputed makes and identified for one to one replacement	01
61.	4.07.XXXX.1.01.Y	Electrical & Electronics	Electricals Cables	PAC	Electricals Cables for which no brand is identified till now	24
62.	4.07.XXXX.2.01.Y	Electrical & Electronics	Electricals Cables	Branded	Electricals Cables which are identified for one to one replacement and used in lieu	44

63.	4.08.XXXX.1.01.Y	Electrical & Electronics	Circuit Breakers, Fuses, Coupler, Socket, Chord Wire, Angle Gear & Others	PAC	Items for which no brand is identified till now	137
64.	4.08.XXXX.2.01.Y	Electrical & Electronics	Circuit Breakers, Fuses, Coupler, Socket, Chord Wire, Angle Gear & Others	Branded	Items which are identified for one to one replacement and used in lieu	18
65.	4.09.XXXX.1.01.Y	Electrical & Electronics	Fans, All Lights, Battery, Self-Starter, Alternator & Motor	PAC	Items for which no brand is identified till now	35
66.	4.09.XXXX.2.01.Y	Electrical & Electronics	Fans, All Lights, Battery, Self-Starter, Alternator & Motor	Branded	Items identified for one to one replacement under reputed make and used in lieu	22
67.	4.10.XXXX.1.01.Y	Electrical & Electronics	ALC, Panel, CWS,CMS, DAR & DRP	PAC	All items of ALC, Panel, CWS,CMS, DAR & DRP	15
68.	5.01.XXXX.1.01.Y	Gear Box & Axles	ZF gear Box	PAC	All items of ZF Gear Box	239
69.	5.02.XXXX.1.01.Y	Gear Box & Axles	Gear Box Housing	PAC	Housings of Gear Box for which no drawing and specification available	2
70.	5.02.XXXX.3.01.Y	Gear Box & Axles	Gear Box Housing	Own	Housings of Gear Box for which drawing and specification available	1
71.	5.03.XXXX.1.01.Y	Gear Box & Axles	Gears & Shafts	PAC	Gears & Shafts of Gear Boxes for which no drawing and specification available	39