USED ON

Cb 3301-15-30

I/L CREATED BASED ON RUSSIAN ORIGINAL ISSUE – 8

ZONE	ITEM NO	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	QTY	REMARKS
		Cb.301-82-5		**UPPER INSERT**		
		ITEM LIST				
	1	301-82-5		UPPER BEARING SHELL	1	NO DRG.
				STEEL 10 GOST 1050-88		
	2			Бр ОС1-22		0.052 Kg.
				GOST 190054-72		

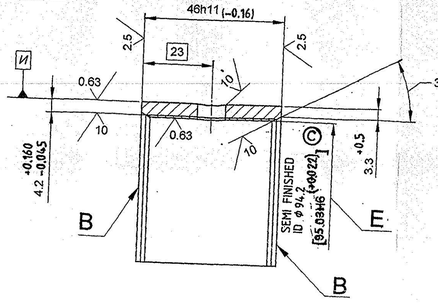
ISSUE	DATE	NATURE OF AMENDMENTS	ISSUE	DATE	NATURE OF AMENDMENTS

DRN		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.	
CHD		TITLE : **UPPER INSERT**	
APPD			
DATE	10.01.08	SHT. NO. 1 OF 1	D S CAT NUMBER
			ITEM LIST FOR **Cb.301-82-5**

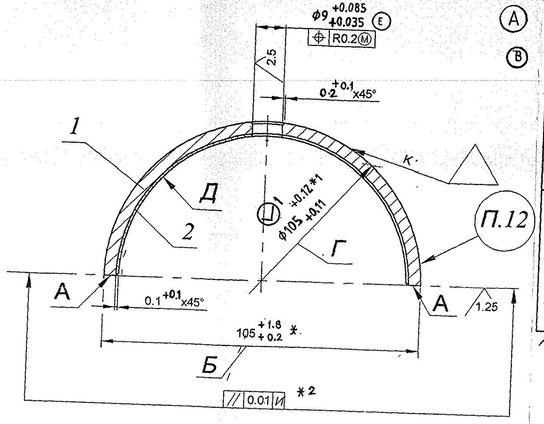
F-154
45/59

DRAWING NUMBER
Cb 301-82-5

SHEET No. OF



SKETCH 1
(1:2)



SKETCH 2 (1:2) (ALTERNATIVE)

Sl. No.	R1	REMARKS
1 OUTSIDE DIA.	105 +0.12 +0.11	1. FINISH SURFACE K WITH THE CRANKCASE ASSERTED BORE INSERTS Cb.301-82-5 DIMENSIONS OF 94 +0.022 TO 95 +0.022
2 INSIDE DIA.	96.5 +0.2	2. FOR OTHER SIZES, ROUGHNESS OF SURFACES TECH. REQUIREMENTS AND MATERIAL REFER TO DRG. No. 301-82-5
3 DIA. AFTER LEAD PLATING.	93.5 +0.07	3. REPAIR SIZE CATEGORY R1 (or) R2 THROUGH R8 TO BE MARKED BY USING AN ELECTROGRAPH.

10. The upper bearing shell is to be paired with the lower bearing shell sb.301-83-5, as per height 'Z'. The total height of the paired halves should be within 105.08..105.112 mm. Parallel drift of joining surface 'A' of paired bearing shells from the axis of surface 'И' should not exceed 0.05 mm.

11. Assembly units Cb.301-82-5 and Cb.301-83-5 are to be marked with one serial number and to be used together (as a pair).

12. The pairing serial number of shells to be marked.

13. Dimension 'E' before lead plating.

14. Dimension 'B' in free condition.

15.* Dimension is given for reference.

16. *1 Dimension to be ensured by tool.

17. *2 Measure with the help of fixture in compressed condition.

18. Alternative Material: БрС30 GOST 493-79 for Item 2.

(B)

Sl.No.	R1	R2	REMARKS
1 OUTSIDE DIA	105 +0.12 +0.11	107 +0.12 +0.11	1. FINISH SURFACE K WITH THE CRANKCASE ASSERTED BORE INSERTS Cb.301-82-5 DIMENSIONS OF 94 +0.022 TO 95 +0.022
INSIDE DIA	96,5 +0.2	96,5 +0.2	2. FOR OTHER SIZES, ROUGHNESS OF SURFACES TECH. REQUIREMENTS AND MATERIAL REFER TO DRG. No. Cb.301-82-5.
DIMN. 'E' DIA. BEFORE LEAD PLATING.	93,5 +0.07	93,5 +0.07	3. REPAIR SIZE CATEGORY R1 (OR) R2 TO BE MARKED BY USING AN ELECTROGRAPH.

NOTE: 'R2' SIZE IS 'APPLICABLE ONLY' FOR V46-6 ENGINE.

1. Requirement for the Material and the quality of plating should be as per instruction TTM-43-87.

2. Coating : O1 or 3microns -zinc, 1micron -Chromium as per instruction ИЛ 749-88, after pairing the shells to be used as spare parts.

3. Surface 'Д' should be lead plated, with layer thickness of 0.015±0.005 mm as per instructions ИЛ 702-87. Blisters, down flows, stripes, places not coated with lead are not allowed. On all other surfaces except the surface A, И and surface B, at the places of engraving figures, down flows and lead coating are permitted.

4. Instead of lead plating of surface 'Д' it may be plated with the alloy of 88...96%- of Lead and 12...4% - of Tin.

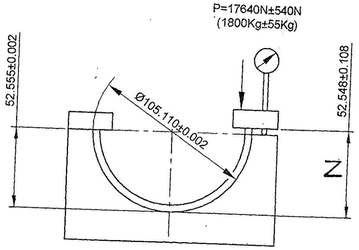
5. The difference in total thickness (steel+ bronze) should be 0.1mm maximum. This is to be checked before finial machining.

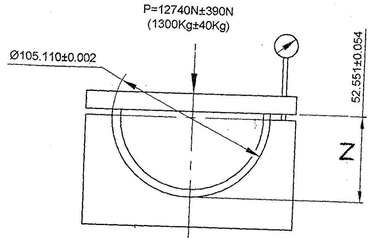
6. It is allowed to have maximum 3 numbers of dents upto Ø1.5 mm, depth upto 0.2 mm on the surface И.

7. Check the surface "И" by bluing in the region embracing the shells. The imprint should cover minimum 80 % of the shell surface area.

8. Carryout the machining as per the dimension given in the square brackets together with the assembly units Cb.301-83-5.

9. Dimension of 'Z' (before coating) to be checked by measuring fixtures as per sketch 1 or 2.





DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 19
DRG. REPLACES Cb 301-82-5 ISSUE-B VIDE NOTN. No.- 2003-283.
COMMON TO V-92S2 ENGINE.

F-154
46
59

SIZE A4 x 4

PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. (Kg)	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
0.283	

ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

ISSUE	DATE	NATURE OF AMENDMENTS
E	06.02.19	D.O.CORRECTION
D	23.02.16	USED ON NUMBER ADDED.
C	20.8.10	4th Alt. Comm. Meeting Minutes Point No. 20 Dt. 26.10.09
B	12-06-09	Authy:- i) EFA Lt.No. EFA/P/RDS/028 Dt: 25-05-09 & (ii) 82847/OH/QAS/ED Dt: 20-03-05.
A	10.01.08	Repair size dimensions are added AUTHY:- LIA. MEET. MINUTES POINT NO. 2.5 Dt. 18.12.07

DRN
CHD
APPD
DATE 10.01.08

SCALE:- 1 : 1

DIMENSIONS IN mm

TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69

ALL THREADS TO CONFORM TO

D S CAT NUMBER

MATERIAL :-

USED ON :-
Cb 3301-15-30
Cb 3301-15-30-01
(D)

CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)
AVADI

TITLE :-
UPPER INSERT

DRAWING NUMBER
Cb 301-82-5

USED ON

Cb 3301-15-30

I/L CREATED BASED ON RUSSIAN ORIGINAL ISSUE – 8

ZONE	ITEM NO	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	QTY	REMARKS
		Cb.301-83-5		**LOWER INSERT**		
		ITEM LIST				
	1	301-83-5		LOWER BEARING SHELL	1	NO DRG.
				STEEL 10 GOST 1050-88		
	2			Бр ОС1-22		0.052 Kg.
				GOST 190054-72		

ISSUE	DATE	NATURE OF AMENDMENTS	ISSUE	DATE	NATURE OF AMENDMENTS

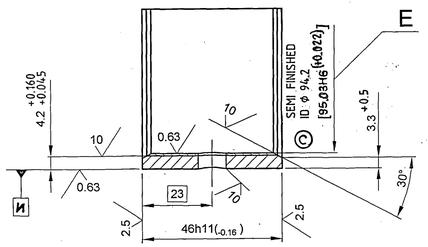
DRN		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.	
CHD		TITLE : **LOWER INSERT**	
APPD			
DATE	10.01.08	SHT. NO. 1 OF 1	D S CAT NUMBER / ITEM LIST FOR **Cb.301-83-5**

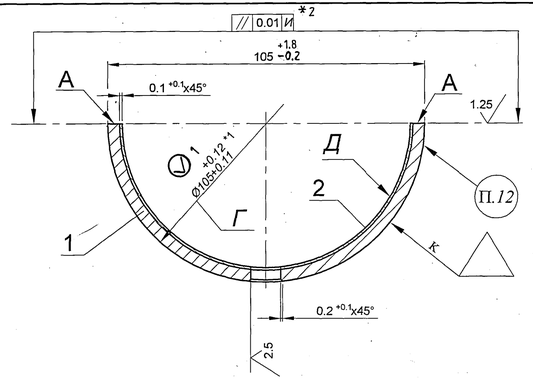
F-154

47/59

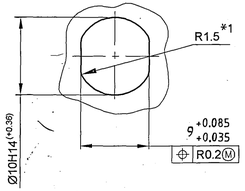
DRAWING NUMBER
Cb.301-83-5

SHEET No. OF

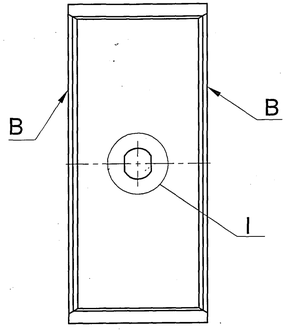


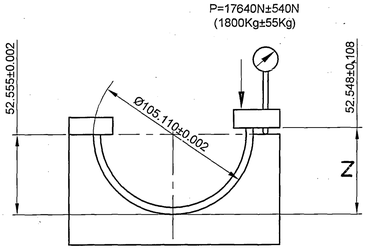


I
M 2.5:1

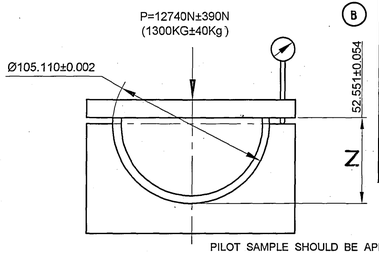


SKETCH 1
(1:2)





SKETCH 2 (1:2)ALTERNATIVE



10. The Lower bearing shell is to be paired with the Upper bearing shell sb.301-82-5, as per height 'Z'. *The total height of the paired halves should be within 105.08...105.112 mm. Parallel drift of joining surface 'A' of paired bearing shells from the axis of surface 'И' should not exceed 0.05 mm.*

11. *Assembly units sb.301-83-5 and sb.301-82-5 are to be marked with one serial number and to be used together (as a pair).*

12. *The pairing serial number of shells to be marked.*

13. *Dimension 'E' before lead plating.*

14. *Dimension 'Б' in free condition.*

15. * *Dimension is given for reference.*

16. *1 *Dimension to be ensured by tool.*

17. *2 *Measure with the help of fixture in compressed condition.*

18. *Alternative Material: БрС30 GOST 493-79 for Item 2.*

(A) NOTE: 'R2' SIZE IS 'APPLICABLE ONLY' FOR V46-6 ENGINE.

Sl. No.	R1	R2	REMARKS
1 OUTSIDE DIA.	105 +0.12 +0.11	107 +0.12 +0.11	1. FINISH SURFACE 'K' WITH THE CRANKCASE ASSERTED BORE INSERTS Cb.301-83-5 DIMENSION OF 94 +0.022 TO 95 +0.022
INSIDE DIA.	96,5 +0.2	96,5 +0.2	2. FOR OTHER SIZES, ROUGHNESS OF SURFACE, TECH. REQUIREMENTS & MATERIAL REFER TO DRG. No. Cb 301-83-5
DIMN 'E' DIA, BEFORE LEAD PLATING.	93,5 +0.07	93,5 +0.07	3. REPAIR SIZE CATEGORY R1 & R2 TO BE MARKED BY USING AN ELECTROGRAPH.

1. Requirement for the Material and the quality of plating should be as per instruction TTM-43-87.

2. Coating : O_1 or 3microns -zinc, 1micron -Chromium as per instruction *ИЛ 749-88, after pairing the shells to be used as spare parts.*

3. *Surface 'Д' should be lead plated, with layer thickness of 0.015±0.005 mm as per instructions ИЛ 702-87. Blisters, down flows, stripes, places not coated with lead are not allowed. On all other surfaces except the surface А,И and surface B, at the places of engraving figures, down flows and lead coating are permitted.*

4. *Instead of lead plating of surface 'Д' it may be plated with the alloy of 88...96%- of Lead and 12...4% - of Tin.*

5. *The difference in total thickness (steel+bronze)should be 0.1mm maximum.This is to be checked before finial machining.*

6. *It is allowed to have maximum 3 numbers of dents upto Ø1.5 mm,depth upto 0.2 mm on the surface И.*

7. *Check the surface "И" by bluing in the region embracing the shells. The imprint should cover minimum 80 % of the shell surface area.*

8. *Carryout the machining as per the dimension given in the square brackets together with the assembly units sb.301-82-5.*

9. *Dimension of 'Z' (before coating) to be checked by measuring fixtures as per sketch 1 or 2.*

PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. (kg)	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
0.283	

ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

ISSUE	DATE	NATURE OF AMENDMENTS
C	20.8.10	4th Alt. Comm. Meeting Minutes Point No.20 Dt.26.10.09
B	12-06-09	Authy:- i) EFA Lt.No.EFA/P/RDS/028 Dt:25-05-09 & (ii) 82847/OH/QAS/ED Dt:20-03-95. iii) EFA/P/PDO/023 Dt.6.11.98
A	31-12-07	REPAIR SIZE DIMENSIONS ADDED. AUTHY:- LIA. MEET. MINUTES POINT No.- 2.5 Dt.- 18.12.07

DRN	
CHD	
APPD	
DATE	10-01-08
SCALE:- 1 : 1	
DIMENSIONS IN mm	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69	
ALL THREADS TO CONFORM TO	

MATERIAL :-

USED ON :- Cb 3301-15-30

CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI

TITLE :- **LOWER INSERT**

D S CAT NUMBER

DRAWING NUMBER **Cb.301-83-5**

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 19
DRG. REPLACES Cb.301-83-5, ISSUE-12 VIDE NOTN. No.-2003-283.
COMMON TO V-92S2 ENGINE.

F-154 48 59

SIZE A4 x 4