

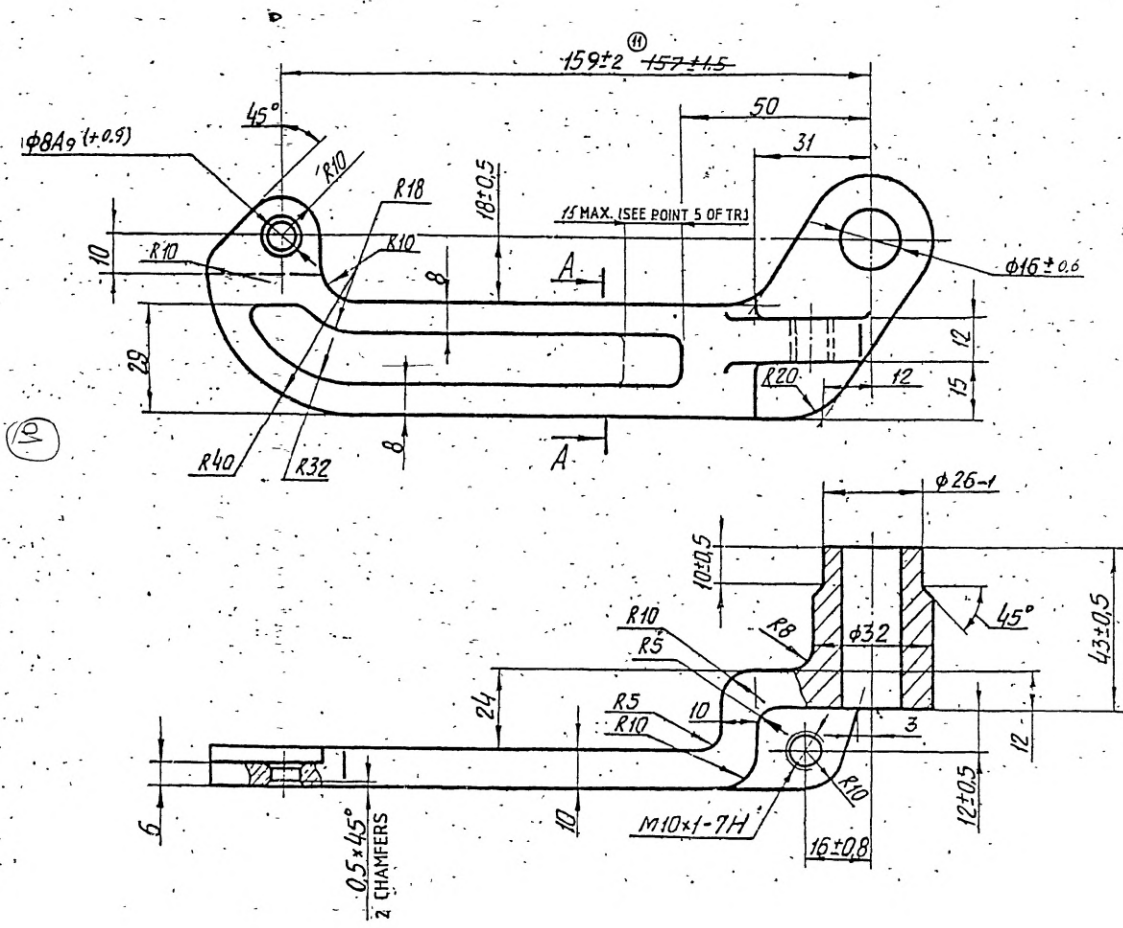
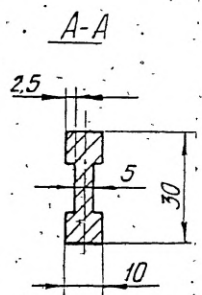
DRAWING NUMBER
175 63 082

✓ (▽)

- ⑩ 1 IT IS ALLOWED TO MANUFACTURED FROM STEEL GRADE 15A1, 20A1, 30A1 AND 35A1 - I GOST 977-6575
2. REQUIREMENTS FOR CASTING SHOULD BE AS PER 172 TY-10, ON ACCEPTANCE OF COMPONENTS MADE BY INVESTMENT CASTINGS.
- 3 PERMISSIBLE DEVIATIONS ON ROUGH DIMENSIONS SHOULD BE AS PER ACCURACY CLASS 2. OF GOST 2009-55.
- 4 UNSPECIFIED RADII SHOULD NOT EXCEED 3 mm
- 5 IT IS ALLOWED TO MANUFACTURE AS PER THE DOTTED LINE.

EXPLANATORY NOTE :-

6. REFERENCE MATERIAL QUOTED -- STEEL 25A - I GOST 977-75. ALLOYED AND UNALLOYED STRUCTURAL STEEL CASTING GRADE 25A GROUP I FOR GENERAL PURPOSE AND MANUFACTURED IN ACCORDANCE WITH GOST 977-75.
- REFERENCE NOTE 1. ON ALTERNATIVE MATERIAL STEEL GRADES 15A1, 20A1, 30A1, AND 35A1 GOST 977-75.
- ALLOYED AND UNALLOYED STRUCTURAL STEEL CASTING GRADE 30A GROUP I FOR GENERAL PURPOSE AND MANUFACTURED IN ACCORDANCE WITH GOST 977-75
- CHEMICAL COMPOSITION AS PER STEEL GRADES 25A & 30A TO GOST 977-75.



GRADE OF STEEL	CONTENT OF ELEMENTS %							ADMIXTURES MAX %	
	C	Mn	Si	Cr	Ni	Cu	S	P	
25A	0.22 -0.30	0.35 0.90	0.20 0.52	0.30 MAX	0.30 MAX	0.30 MAX	0.05	0.05	
30A	0.27 -0.35	0.40 0.90	0.20 0.52	0.30 MAX	0.30 MAX	0.30 MAX	0.05	0.05	

DRAWING REDRAWN BASED ON INDIANISED DRG. ISSUE - 11 COMMON TO BLT

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

EST. WT.	TO BE STAMPED OR MARKED WHERE INDICATED THUS (LETTERS)
0.56	

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

DRN	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-63	MATERIAL	USED ON	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	AVADI	TITLE
				15-12-93	1:1			STEEL 25A, GOST 977-75	175 63 029 (6-1)			BRACKET

11	16-1-93	NOTN No. 172M 512A - 89 AL No 13/2	ALL THREADS TO CONFORM TO	D S CAT NUMBER	DRAWING NUMBER
10	16-1-89	AMDT. LIST No. 6, PART II, BOOK - 9			175 63 082

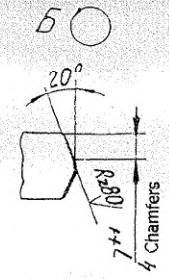
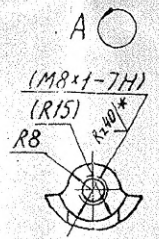
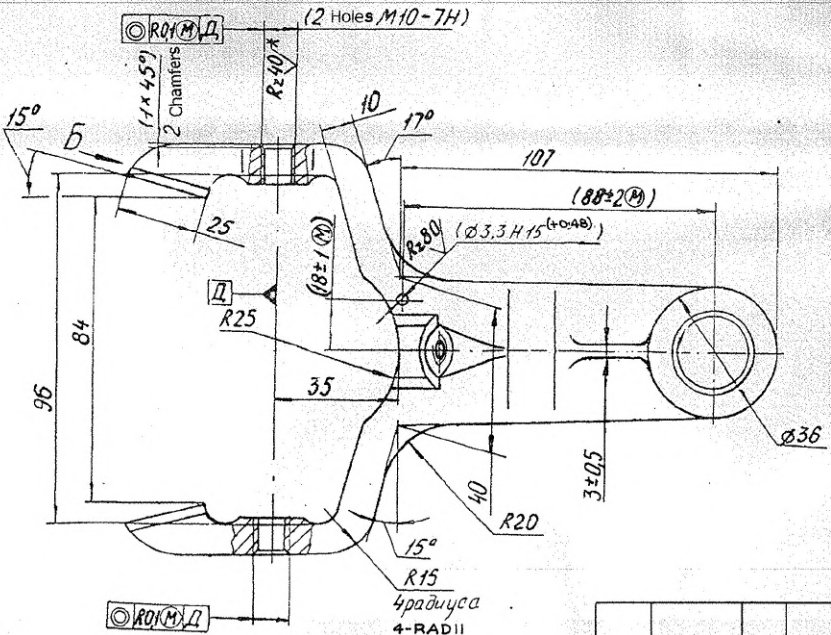
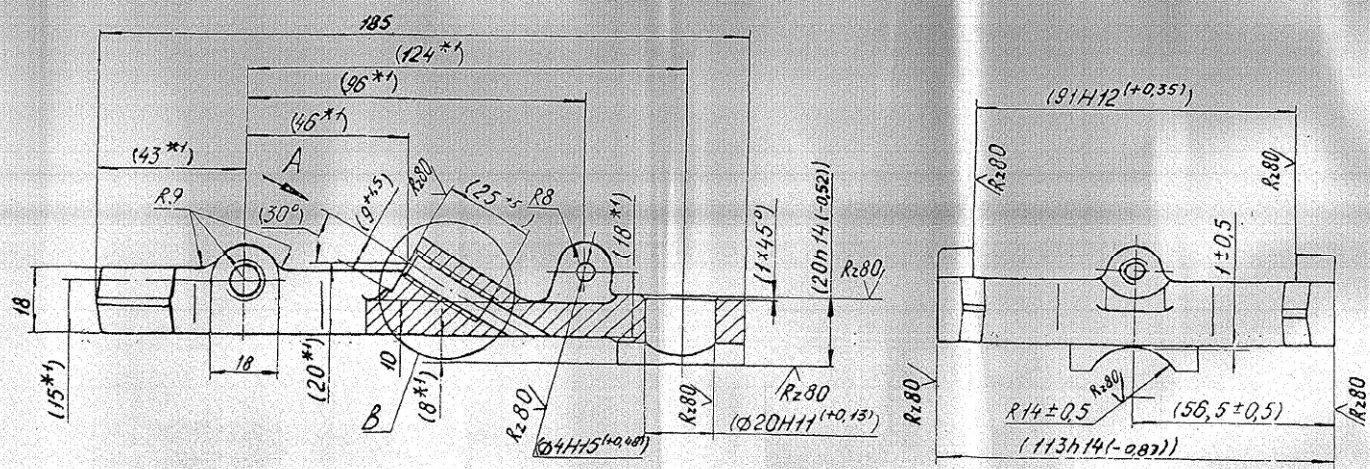
F-102

SIZE A2

PART No.
185.18.080

आनी सर्व प्रती प्रति
CERTIFIED - CORRECT COPY
अधिक प्रतिलिपि के
SEALED DRAWING AS QM
कुने निबंधक गुणता
FOR CONTROLLER OF QUALITY
आयुक्तम (वि. सं. आ.) प्रवादि वने 54
ASSURANCE (AVA) AVADI - CHENNAI 54

1. Cast 1st group GOST 977-88.
2. Requirements for part as per 172.TY10.
3. Accuracy of casting 10-0-0-8 GOST 26645-85
4. Drafts not more than 1.50 external.
5. Un-specified radii 0.3mm
6. Dimensions given in brackets after assembly.
7. *Surface finish to be ensured by tool.
8. *Dimensions for reference.
9. Other requirements as per 520.TY1

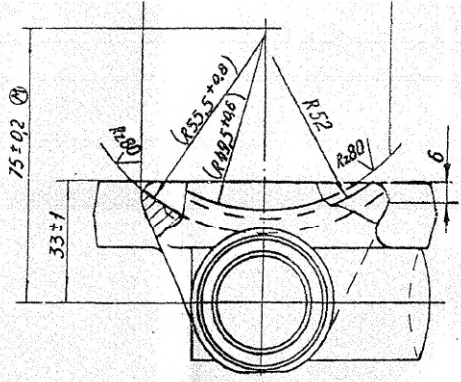
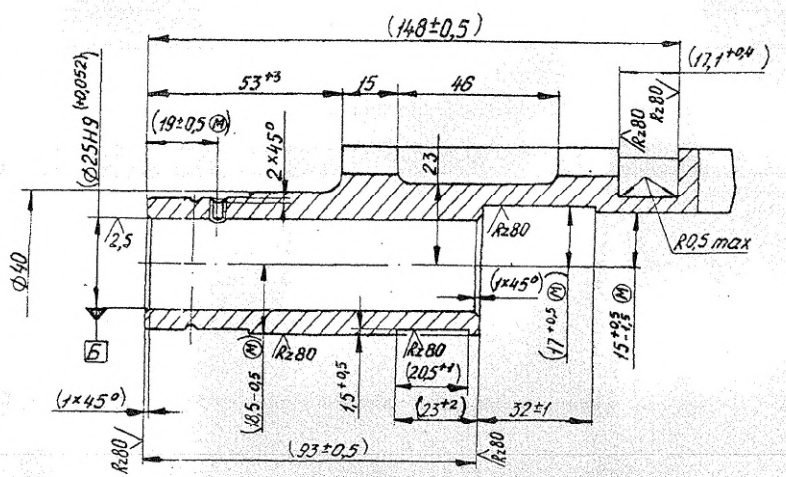


IND. EQUIV. MATL. :- BS:3100-1976 STEEL GRADE BT1.

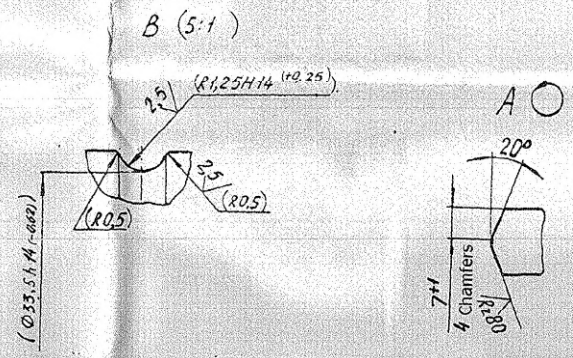
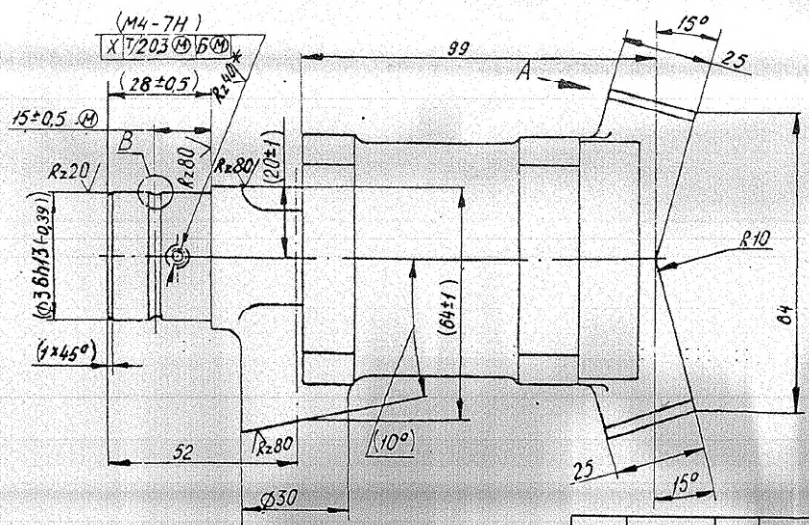
DRAWN:-		CHD:-	ASSY DRG:-	CQA (AVA),AVADI
SCANNED:-		CHD:-	DATE:-	
23-6-14	0119-AVA	IND. EQUIV. MATL. ADDED		SCALE:- 1:1
4/5/07	SCANNED & PRINTED WITHOUT CHANGE		ESTD mass:- 0.8 kg	
DATE	AUTHORITY	ZONE	AMENDMENTS	DESIGN No.
MATERIAL:- STEEL 32X06 / GOST 977-88				PART No. 185.18.080
PROTECTIVE FINISH:-				
DRG SEAL ED (PROV)				DS CAT No.

BRACKET

जोडी मध्ये सही प्रति
 CERTIFIED CORRECT COPY OF
 मूळ आदेशाचा प्रत
 SEALED DRAWING AS PER
 कृते नियुक्त गुणवत्ता
 CQA CONTROLLER OF QUALITY
 आदेशाचे (वि. सं. म.) मालकी क्र. 54
 AS SURANDEL AVA, AVADI, HENNA 54



1. Casting 1st group GOST 977-88.
2. Requirements for part as per 172.TY10.
3. Accuracy of casting 10-0-0-8 GOST 26645-85.
4. Drafts not more than 1.50 external.
5. Un-specified radii 0⁺2 MM.
6. Dimensions given in brackets - after assembly.
- 7.*Surface finish to be ensured by tool.
8. Other requirements as per 520.TY1.



IND.EQUIV. MATL :- BS:3100-1976 STEEL GRADE BT 1.

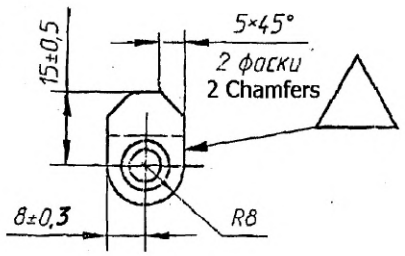
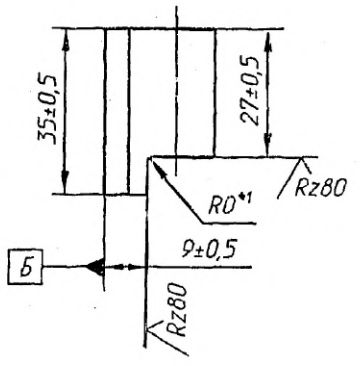
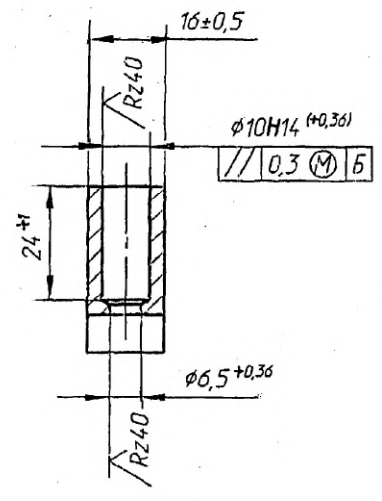
DRAWN -		CHD -	ASSY DRG -	CQA (AVA), AVADI
SCANNED - RKS		CHD -	DATE -	
23-6-14	0119-AVA	IND. EQUIV. MATL. ADDED		SCALE: 1:1
4/5/07		SCANNED & PRINTED WITHOUT CHANGE		
DATE	AUTHORITY	ZONE	AMENDMENTS	ESTD mass - 0.86 kg
DRG SEALED (PROV)			SIG AHSP	DESIGN No
DC No. 0018-AVA			SIG DO	
DT. 12-3-08			MATERIAL - STEEL 32X06 // GOST 977-88	
			PROTECTIVE FINISH -	
			PART No	
			185.18.079	
			DS CAT No	

BODY

DRAWING NUMBER
172.03.079

SHEET No. 1 OF 1

✓ (✓)



1. Alternate Material Steel 25//, 30// GOST 977-88.
2. Casting of Ist group GOST 977-88.
3. Accuracy of casting 9T-0-0-9, GOST 26645-85.
4. Draft should be 1:50.
5. Requirement for casting as per 172.TY10.
6. Other requirement as per 520.TY1.

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 4
COMMON TO T-72

356
SUPPLY CODE U-01-1-2
D90040
F-61
46
SIZE A3

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

EST. WT. (Kg) 0.08	TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS)
-----------------------	---

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

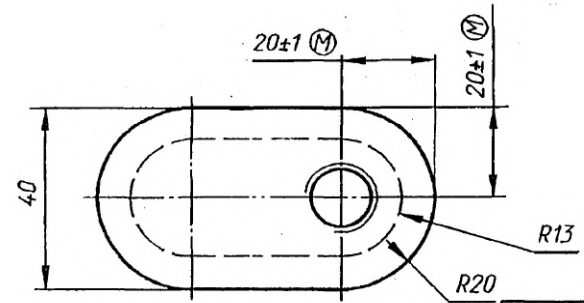
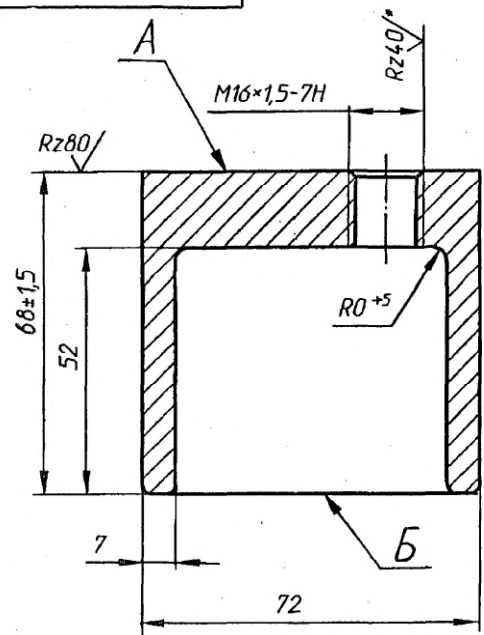
ISSUE	DATE	NATURE OF AMENDMENTS

DRN	<i>B. Jomir</i>	MATERIAL:- Steel 15// GOST 977-88	USED ON:- 172.03.021cbCb
CHD	<i>Chancel</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
APPD	<i>Chancel</i>		
DATE	14-10-04	TITLE:- BUSHING	
SCALE:- 1 : 1		D S CAT NUMBER	DRAWING NUMBER 172.03.079
DIMENSIONS IN mm			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69			
ALL THREADS TO CONFORM TO			

DRAWING NUMBER
175.04.341A

SHEET No. 1 OF 1

✓(✓)



1. Материал-заменитель сталь 15Л, 20Л и 30Л ГОСТ 977-88.
2. Отливка 1-й группы ГОСТ 977-88.
3. Точность отливки 10-0-0-8 ГОСТ 26645-85.
4. Требования к детали согласно 172.TY10.
5. Неуказанные литейные радиусы 0⁺³ мм.
6. На поверхности А допускаются черновины.
7. По поверхности Б предусмотреть технологический припуск.
8. * Шероховатость обеспечить инструментом.
9. Остальные требования по 520.TY1.

1. Alternate material is steel 15Л, 20Л and 30 Л GOST 977-88.
2. Casting 1st group GOST 977-88.
3. Accuracy class 10-0-0-8 GOST 26645-85.
4. Requirements for parts are as per 172 TY 10.
5. Unspecified casting radii 0⁺³ mm.
6. Black spots are allowed on surface A.
7. Technological allowance is allowed along surface B.
8. *Ensure surface finish with tool.
9. Other requirements are as per 520 TY 1.

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE -7
COMMON TO T-72

356
SUPPLY CODE
U-01-1-2
D90043
F-64
109
SIZE A3

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

EST. WT. (Kg) 0.77	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
-----------------------	---

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

ISSUE	DATE	NATURE OF AMENDMENTS

DRN	V. Appinath	MATERIAL :-	USED ON :-
CHD	V. Appinath	Steel 25 Л GOST 977-88	175.04.115cb-1Cb
APPD	P. S. Suresh	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
DATE	08.10.04	TITLE :-	
SCALE:-	1 : 1	BOSS	
DIMENSIONS IN mm		D S CAT NUMBER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69		DRAWING NUMBER	
ALL THREADS TO CONFORM TO		175.04.341A	

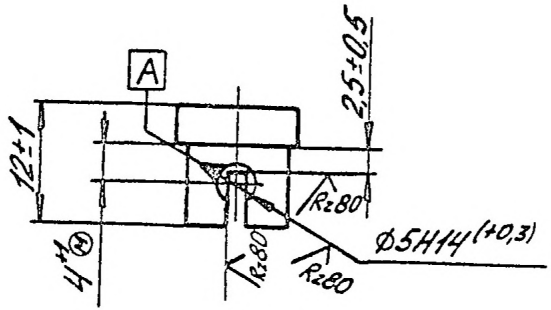
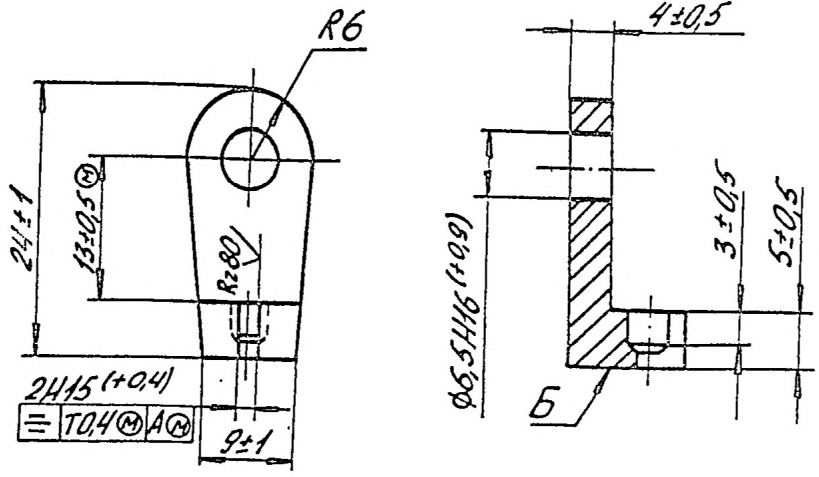
(V)A

188.21.058-1

Первопримен.

Справ. №

D.CI-2409-I(P)



1. Отливка 1 группы. ГОСТ 977-88.
2. Материал-заменитель сталь 25, 40 ГОСТ 977-88.
3. Требования к отливке по 172.ТЧ10.
4. Покрытие Ц6.Хр.
5. На поверхности Б допускается остаток от питателя высотой не более 3мм.
6. Остальные требования по 520.ТЧ1.

1. Casting of group 1 GOST 977-88.
2. Alternate material: Steel 25,40 Л GOST 977-88.
3. Requirements for casting should be as per 172-TY 10.
4. Coating Zn 6 chromating.
5. On surface B gate residue with height not exceeding 3mm is allowed.
6. Other requirements should as per specifications 520 TY1.



नियंत्रक
आरक्षण नियंत्रणालय
सं. (आई) 2409-III(P) दिनांक 25.11.06

TRIPPLICATE
T-90S.

D.CI-2409-I(P) DRG. DRAW. SEALED		NS	6/11/06
AMENDMENTS		CHD	SKG DATE
188.21.058-1		Sub.ccode	Fold no SI no
		J-01-1-1	6 44
FORK		Weight (kgs)	Scale
		0008	2
		Page	Page total
ISSUE	DATE	REFERENCE	
APPROVED		A. J. [Signature]	
CHECKED		[Signature]	
DRAWN	B. [Signature]	25/04	
STEEL 20Л GOST 977-88		HEAVY VEHICLES FACTORY AVADI	

Подп и дата

Взам инд.№ Инд.№ дубл

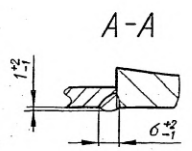
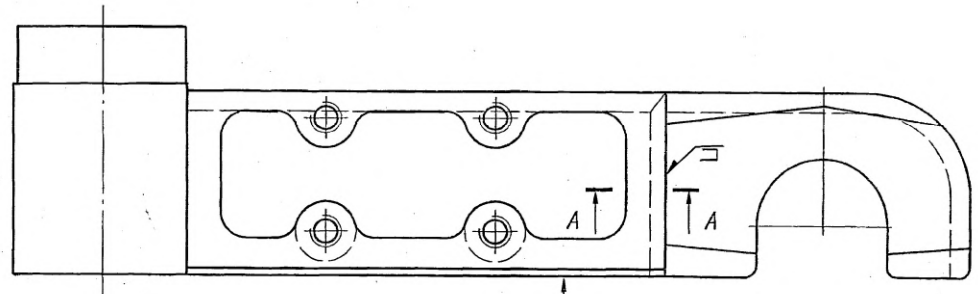
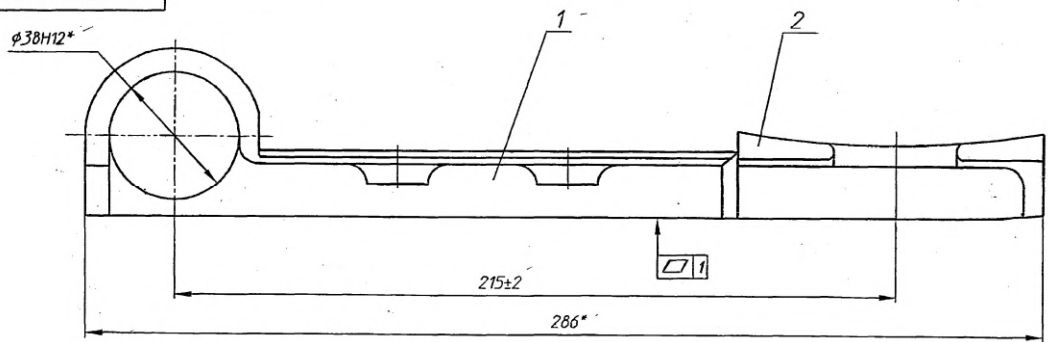
Издн и дата

Инд. № подл

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE -4
COMMON TO T-72 & BLT

DRAWING NUMBER
175.01.144cbCb

SHEET No. 1 OF 1



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

EST. WT. (Kg) 1.16	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
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ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.


1. Нестандартный шов - сварка дуговая в среде защитных газов.
2. Допускается ручная дуговая сварка.
3. Покрытие внутренней поверхности Грунтовок ФЛ-03К Требования по 520.TY5.
4. *Размеры для справок.
5. Остальные требования по 520.TY1.

1. Non standard welds - gas shielded arc welding.
2. Manual arc welding is allowed.
3. Coating for internal surfaces primer ФЛ-03К requirements as per 520.TY5.
4. *Dimensions for reference.
5. Other requirements as per 520.TY1.

356
SUPPLY CODE
U-01-1-4

D90196

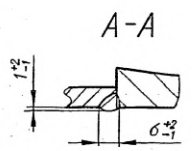
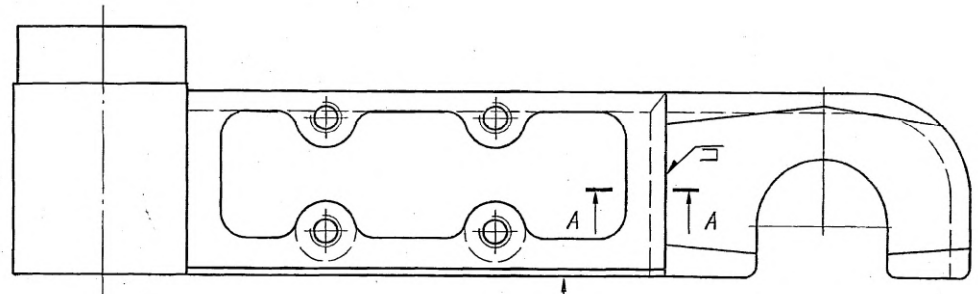
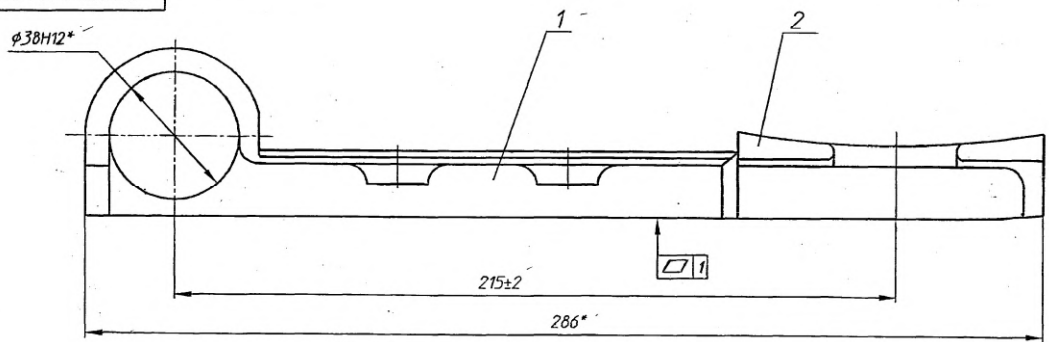
F-90
3
SIZE A4x3

DRN	<i>V. Appinetti</i>	MATERIAL:-	USED ON:-
CHD	<i>V. Appinetti</i>		176.01.040cb-2Cb
APPD	<i>Chavchal</i>		176.01.040Cb. 69
DATE	9-6-04	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
SCALE:- 1 : 1		 TITLE:- RH EJECTION DUCT ASSY.	
DIMENSIONS IN mm			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69			
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER 175.01.144cbCb
4A	12-01-08	57202/COAHVI/DB-1/T90/01/Amdt.	
ISSUE	DATE	NATURE OF AMENDMENTS	

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE -4
COMMON TO T-72 & BLT

DRAWING NUMBER
175.01.144cbCb

SHEET No. 1 OF 1



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

EST. WT. (Kg) 1.16	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
-----------------------	---

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

1. Нестандартный шов - сварка дуговая в среде защитных газов.
2. Допускается ручная дуговая сварка.
3. Покрытие внутренней поверхности Грунтоводка ФЛ-03К Требования по 520.TY5.
4. *Размеры для справок.
5. Остальные требования по 520.TY1.

1. Non standard welds - gas shielded arc welding.
2. Manual arc welding is allowed.
3. Coating for internal surfaces primer ФЛ-03К requirements as per 520.TY5.
4. *Dimensions for reference.
5. Other requirements as per 520.TY1.

356
SUPPLY CODE
U-01-1-4

D90196

F-90
3
SIZE A4x3

DRN	<i>V. Appinetti</i>	MATERIAL:-	USED ON:-
CHD	<i>V. Appinetti</i>		176.01.040cb-2Cb
APPD	<i>Chavchal</i>		176.01.040Cb. 69
DATE	9-6-04	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
SCALE:- 1 : 1		TITLE:-	
DIMENSIONS IN mm		RH EJECTION DUCT ASSY.	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		D S CAT NUMBER	
ALL THREADS TO CONFORM TO		DRAWING NUMBER	
4A	72-01-08	175.01.144cbCb	
ISSUE	DATE	NATURE OF AMENDMENTS	

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 9
COMMON TO T-72 & BLT

356

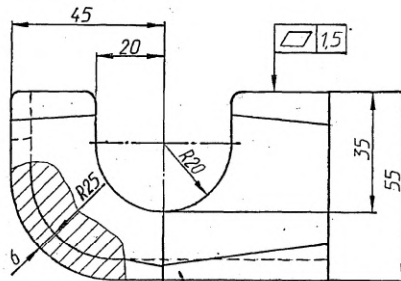
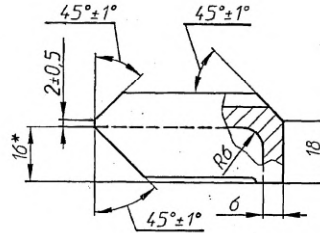
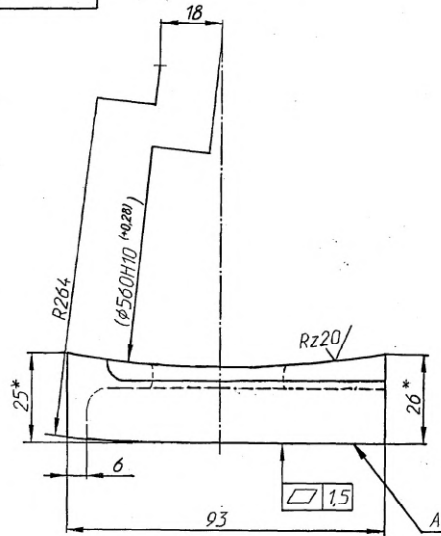
SUPPLY CODE
U-01-1-2
D90038

F-59
65

SIZE A4x3

DRAWING NUMBER
175.01.310

SHEET No. 1 OF 1



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)
0.23	

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

DRN	<i>[Signature]</i>	MATERIAL :-	Steel 25/ GOST 977-88	USED ON :-	175.01.146cbCb
CHD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
APPD	<i>[Signature]</i>	TITLE :- RIGHT HAND SIDE MEMBER			
DATE	26-10-04	D S CAT NUMBER			
SCALE:	1:1	DRAWING NUMBER 175.01.310			
DIMENSIONS IN mm		ALL THREADS TO CONFORM TO			
TOLERANCE ON DIMENS UNLESS OTHERWISE STATED IS: 2102-69					
ISSUE	DATE	NATURE OF AMENDMENTS			

1. Материал-заменитель сталь 30Л, 35Л ГОСТ 977-88
2. Требования к отливке по 172.ТУ10.
3. Точность отливки 9Т-0-0-8 ГОСТ 26645-85.
4. Отливка 1-й группы.
5. На поверхности А предусмотреть технологический припуск.
6. Неуказанные радиусы скруглений 3-3 мм.
7. Размер в скобках - после сборки.
8. Остальные требования по 520.ТУ1

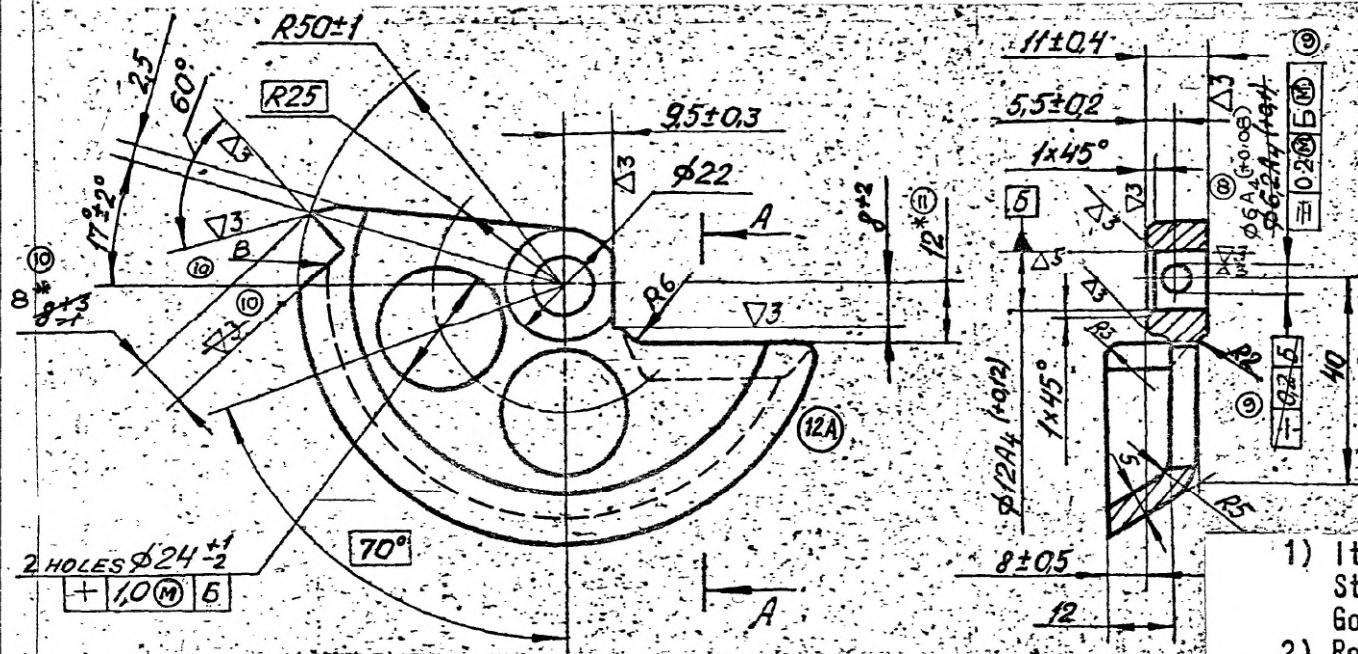
1. Alternate material Steel 30 Л, 35 Л GOST 977-88.
2. Requirements for casting as per 172.TY10.
3. Accuracy of casting 9T-0-0-8 GOST 26645-85.
4. Casting of 1st group.
5. Technological allowance should be provided on surface A.
6. Unspecified rounding off of radii 3-3 mm.
7. Dimension given in the brackets are after assembly.
8. Other requirements should be as per specifications 520.TY1.

✓ (✓)

DRAWING NUMBER

175 64 094

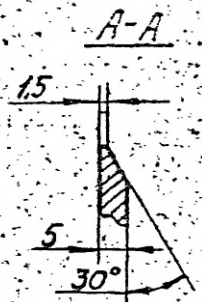
✓ (▽)



2 HOLES $\phi 24 \pm 0.1$
 $+ 0.10 \text{ (M)} \text{ } 0$

- ⑩ 7. DURING MACHINING AS PER DIMENSION 60° SHOULDER AND INCISION IN SURFACE "B" WITH DEPTH UPTO 2mm ARE ALLOWED.
- ⑩ 8. *DIMENSIONS FOR REFERENCES.
- 4. COATING OF ALL SURFACES, EXCLUDING HOLES $\phi 6A_4$ AND $\phi 12A_4$. PRIMER $\phi A-03K$, DARK- GREY ENAMEL $\Pi\phi-223$ OR DARK- GREY ENAMEL $\Pi\phi-115$ 894. REQUIREMENTS AS PER 520 TY 5.
- ⑫

- 1) It is allowed to manufacture from Steel of grades 30Л-I and 35Л-I Gost 977-65.
- 2) Requirements to casting are in compliance with 172 Ty-10 for the acceptance of investment cast components.
- 3) Deviation on rough dimensions should be as per accuracy class 2 GOST 2009-55.
- ~~4) Paint coating should be in compliance with 175 Ty 2-2~~
- 5) Drafts 1: 50
- 6) Un-specified radii should be upto 3 mm.



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

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

0,16 Kg

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

DRN	<i>Amr...</i>	MATERIAL :-	USED ON :-
CHD	<i>...</i>	STEEL 25Л-I GOST 977-65	176 64 001 Cb
TCB	<i>J. ...</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
APPD	<i>...</i>	DATE	
DATE		SCALE :- 1:1	
DIMENSIONS IN MM		TITLE	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69		POINTER INDICATOR	
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
⑧, ⑩, ⑪, ⑫, ⑬, ⑭, ⑮, ⑯, ⑰, ⑱, ⑲, ⑳, ㉑, ㉒, ㉓, ㉔, ㉕, ㉖, ㉗, ㉘, ㉙, ㉚, ㉛, ㉜, ㉝, ㉞, ㉟, ㊱, ㊲, ㊳, ㊴, ㊵, ㊶, ㊷, ㊸, ㊹, ㊺, ㊻, ㊼, ㊽, ㊾, ㊿			175 64 094

INDIANISED DRAWING PREPARED BASED ON ISSUE-7

F-105
53

SIZE A3

272