

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट  
INITIAL COMMERCIAL TEST REPORT  
THIS TEST REPORT VALID UP TO

संख्या/No. CSIR/CMERI/FMTTC/2023/021  
माह/Month: August, 2023  
31<sup>st</sup> AUGUST, 2030



**STAR MANKU THRESHER FACTORY  
TRACTOR OPERATED MAIZE SHELLER  
(MODEL - STM-3)**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र  
**Farm Machinery Training and Testing Centre**  
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान  
**CSIR - Central Mechanical Engineering Research Institute**  
महात्मा गांधी एवेन्यू, दुर्गापुर  
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<b>Name of Machine</b>	: Maize sheller
<b>Type</b>	: Tractor P.T.O operated
<b>Make</b>	: Star Manku Thresher Factory
<b>Model</b>	: STM - 3
<b>Name and address of Manufacturer</b>	: Star Manku Thresher Factory Bhulki, Domohana, Karandighi, Uttar Dinajpur - 733215
<b>Name and address of Applicant</b>	: Star Manku Thresher Factory Bhulki, Domohana, Karandighi, Uttar Dinajpur - 733215
<b>Test Conducted at</b>	: Farm Machinery Training and Testing Centre CSIR - Central Mechanical Engineering Research Institute, M G Avenue, Durgapur, Pin - 713209, West Bengal.

**THIS TEST REPORT VALID UP TO : 31<sup>ST</sup> AUGUST, 2030**  
[vide DAC&FW OM No. 13-24/2018- M&T (I&P) dated 19.09.2018]

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Year: 2023

**CSIR - Central Mechanical Engineering Research Institute,  
Durgapur - 713209  
(W.B.), INDIA**



Material	: Mild steel
Length of hanger (mm)	: 200 mm
Method of mounting	: Nut & bolt
Method of lubrication	: NA
Length of stroke (mm)	: 50 Adjustable 50 – 90 mm
No. of oscillations (strokes/min)	: -

**4.4.5.2. Sieve**

Parameters	Top	Bottom
Type	Perforated	Perforated
Size of holes (mm)	Ø14.16	Ø5.4
Density of holes (/10 cm <sup>2</sup> )	--	--
Size(mm)	2915 × 660	2135 × 660
Effective size (mm)	2880 × 645	2125 × 645
Effective area (cm <sup>2</sup> )	-	-
Thickness of sieve(mm)	0.6	0.4
Angle of inclination (°)	0 to 10 <sup>0</sup>	0 to 10 <sup>0</sup>
Method of fixing	Nut & Bolt	Nut & bolt

**Method of sieve angle adjustment :** Two hanger bolts with check nuts are provided to lift or lower the sieve box by increasing or decreasing the length of hangers.

**4.4.5.3. Blower**

Type	: Blower with Rectangular Blades
Constructional details	: The blower is having 4 blades bolted on the flanges made of MS flats. The MS flanges are welded on the bush mounted on main shaft. Blades are made of rectangular MS sheet bend outward on both sides.
Size of blower (mm)	: Ø320
Material	: MS. Sheet
Size of blades (mm)	: 575 × 105 × 4.05
Method of drive	: Drive from Main Shaft by V Belt & Pulley
Dia. of drive pulley (mm)	: 52
Dia. of driven pulley (mm)	: 75
Range of speeds (rpm)	: Same as De husking cum sheller mechanism
Method of airflow adjustment	: Frame lever
Size of window (mm)	: 610 × 85
Size of air flow opening (mm)	: 610 × 85



**4.4.5.3.1. Bearings**

No. & type of bearings	: 22, UCP – 8, Ball Bearing – 10, Taper Roller Bearing – 4.
Bearing Number	: UCP – 204, 4 Nos. UCP – 207, 4 Nos. Ball Bearing – 6312, 2 Nos. 6310, 3 Nos. 6204, 4 Nos. 6305, 1 Nos. Taper Roller Bearing – 30209, 4 Nos.
Method of lubrication	: Grease

**4.4.6. Outlets**

Number of outlets	: Two
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**4.4.6.1. Main grain outlet**

Location	: Right side of the machine
Material	: MS Sheet
Size (mm)	: 270 × 265
lubrication	: Yes
Height of outlet from ground level, mm	: 528

**4.4.6.2. Sieve outlets**

Location	: Near fan
Size (mm)	: 2135 × 660
Height of outlet from ground (mm)	: 810

**4.4.7. Power transmission****4.4.7.1. Prime-mover to threshing cylinder**

Type	: PTO and V-belt Pulley
Number of grooves	: Three
Size of drive pulley	: 12"
Size of groove (mm)	: 25
Size of driven pulley	: 9"
Size of groove (mm)	: 17.72
Number, type & size of belt	: 3, C – Type, 108
Speed reduction ratio	: 1.33:1





7.5	<b>Marking:</b> -Each thresher shall be marked with the following particulars:		
(a)	Manufacturer's name and recognized trade- mark, if any:	Provided	Conform
(b)	Model number	Provided	Conform
(c)	Batch or code number, or S. No. if any	Provided	Conform
(d)	Power rating, kW	Not Provided	Does not Confirm
(e)	Revolutions per. minute of the threshing drum and its direction of rotation	Provided	Conform
7.6	<b>Minimum cautionary notices</b> -Each thresher shall be fitted with a label/plate containing following cautionary notices written in vernacular language and their Pictorial representation. The size of the pictures and the typography of the letters shall be selected according to the size of the label or poster and the distance at which these have to be seen or read. The minimum size for picture shall be 40 mm; The color of symbols should be black for "pictorial representation" and red for "Not to Do":(Refer IS:10618-1983)		
(a)	Do not put or take-off belt while pulley is running	Provided	Conform
(b)	Do not stand on thresher during operation or transportation	Provided	Conform
(c)	Do not smoke and light fire near threshing yard and thresher	Provided	Conform
(d)	Do not feed ear-heads by hand	Not Provided	Does not Confirm
(e)	Children and aged persons should be discouraged for feeding the crop.	Provided	Conform
(f)	Do not cross over the belts	Provided	Conform
(g)	Do not wear loose dress, bangle, watch, etc. while working	Provided	Conform
(h)	Don't walk under the influence of intoxicants like liquor, opium, etc. while working	Provided	Conform
(i)	Do not work when tired	Provided	Conform
(j)	Do not make adjustment when thresher is working	Provided	Conform

**8. EASE OF OPERATION & ADJUSTMENTS**

No noticeable difficulty was observed during the operation and adjustment of maize thresher.

**9. DEFECTS, BREAKDOWN AND REPAIRS**


No noticeable defect/ breakdown was occurred during the entire period of field & lab test.



**12. TECHNICAL LITERATURE**

The part's catalogue is provided by the applicant but user's manual and service manual are not provided. These manuals should be provided by the applicant as per IS: 8132-1999.

**TESTING AUTHORITY**

Report Prepared by	Technical Officer CSIR-CMERI Farm Machinery Testing Centre	
Report Verified by	Scientist, CSIR-CMERI Farm Machinery Testing Centre	
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	
Report Approved for release by	Head, Business Development Group, CSIR-CMERI, Durgapur	

**13. APPLICANT'S COMMENTS**

Para No.	Our Reference	Applicant's Comments
13	11.1 to 11.7	Corrective actions will be taken against the given comments from 11.1 to 11.7

