

WorldSkills Competition
April 23 to 25, 2008

National Skill Competition  worldskills
INTERNATIONAL VOCATIONAL TRAINING ORGANIZATION

Industrial Maintenance

Test Project



Skill Area: Instrument Making

National Skills Competition Date:

WorldSkills Jamaica Competition April 24 to 25, 2008

General Instructions

1. Each competitor will be required to carry out the test project as specified and will be available on the website three months before the competition.
www.worldskillsjamaica.org
2. Each competitor will be required to carry out the test project as specified on the schedule to be handed out two days before the competition.
3. The time will be specified according to the test project.
4. 20% change will be made to the test project on the day of the competition where a new test project will be issued to the competitor.
5. All materials, ingredients, large equipment and specialized hand tools will be provided.
- 6. Please note that all competitors should provide their own small tools and utensils.**
7. Competitors are expected to identify all equipment/ materials/ingredients needed and submit list to the competitions committee no later than March 7, 2008.
8. Debriefings will also be conducted for all competitors on April 22, 2008.
9. All competitors will get an opportunity to arrange work areas the day before the competition. Where applicable competitors for the second day will arrange their work areas on the evening of day one. Competitors who fall in the second shift will get an opportunity to do their preparation at offsite locations (to be decided) where necessary.
- 10. Competitors and coaches are expected to find their way to the competition village on April 22, 2008 and to depart back home on April 26, 2008**
- 11. Transportation will be provided at designated times for all competitors and coaches to and from the competition venue.**
- 12. All coaches will play the role of experts (judges) for the competition**
- 13. Accommodation and meals will be provided for all competitors**

- 14. Accommodation will be provided for coaches only.**
- 15. All other persons that support the competitors will need to make their own accommodation arrangements.**
- 16. Lunch and light refreshment only will be provided for coaches, (experts), workshop supervisors, national trade managers and volunteers.**

- 17. All competitors should be present for the opening ceremony along with their coaches.
- 18. Rehearsal for the opening ceremony will be held on the evening of April 22, 2008 in the Indoor Sports Centre.
- 19. Competitors are not allowed out of the competition village unless permission is granted by the dorm master.
- 20. All competitors are required to register at the competition village to qualify for entry into the competition.
- 21. Special permission must be granted if competitors need to reside off campus.

Introduction

This project proposal is designed to test, over a period of (10) ten hours within two days. The high strength or good accuracy of the range of skills that is required to machine and fabricate mechanical instruments.

There is only one task in the competition and designed to test different skill areas.

Industrial Padlock

This task required various machine operations, including, Milling, Turning, Tap & Die Knurling, Drilling and Bench Work.

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The industrial padlock consists of several parts; the hook is secured to the body of the lock with the aid of a nut. The nut is then held fixed by a screw.

Evidence of the design should be reflected by the use of a diagram and demonstrated practically.

The diagram should be presented on the day of competitions.

All competitors will be allocated a competitor number and workstations by the expert/judge.

Equipment

Adequate material and equipment will be available to each competitor.

Please check all materials and tools when they are supplied to you to ensure they are correct and not damaged.

Makes will be deducted if more materials required unless it was faulty when supplied.

Replacement parts for any equipment must be requested through an expert/judge.

Personal Safety Rules

During the competition, all candidates **MUST** follow the safety rules listed below:

Any candidate, who in the opinion of the experts/judges, is not wearing the correct safety attire or is engaging in any unsafe practice, will be stopped and not allowed to continue until the issue is resolved. The candidate will also lose marks.

General:

Never leave a running machine unattended.

Keep hands away from moving parts of the machines and away from work and tools when the machines are running.

Clean the area and machine after each usage

Shoes:

Fully enclosed work shoes or boots must be worn at all times.

Clothing:

Legs must be covered at all times, by either long work trousers or overalls.

Upper body must be covered at all times.

Do not wear long sleeves, loose clothing, tie, watches, ring or an item that could be caught in the machine. If your hair is long, wear it up or in a hair net.

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Clear Safety Glasses:

Must be worn when necessary to protect your eyes.

Gloves:

Must be worn when necessary to protect your hands.

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EQUIPMENT TO BE SUPPLIED BY THE CANDIDATE

Personal Protective Gears	Center Punch
Steel rule 150mm (min)	Ball pein hammer
Vernier Caliper	Screw driver (flats)
Hacksaw & Blade	Odd Leg Caliper

EQUIPMENT TO BE PROVIDED BY THE ORGANIZERS

The equipment and tools is to be supplied.

CANDIDATE WORK AREA

Each candidate work area should contain the following equipment

EQUIPMENT

- Lathe machine
- Milling machine
- Drilling machine and chuck key
- Pedestal grinder
- Bench vice
- Work bench
- Power saw

TOOLS

- Lathe Cutting/Turning Tools
- Threading Tool
- Threading tools (Tap & Die – M14 x 1.25) & wrench and die stock
- Files (rough cut, smooth cut, Flat)
- Drill bits (5mm, 8mm, 10mm and 12.75mm)
- Three Jaw universal Chuck
- End Mill 6mm, 13mm & 20mm
- Cutting Lubricant (oil)
- Waste Cloth

MATERIALS

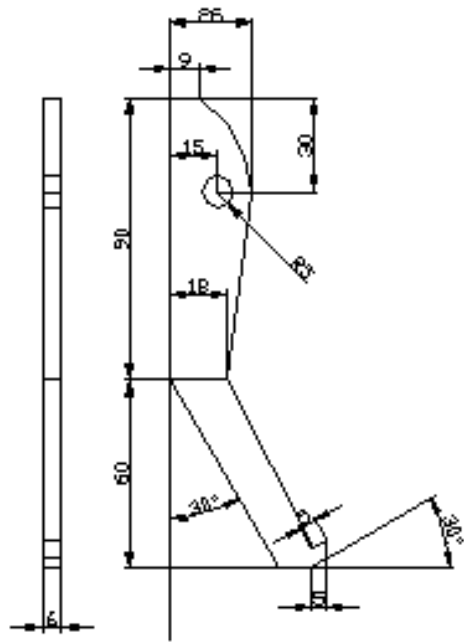
Bearing Puller

- 30mm round (MSB) @ 170 mm long (Screw)
- 25 x 90 mm flats (MSP)
- 160 x 50 x 6 mm flats (MSP)
- M10 x 1.25 nut and bolt 35 mm long

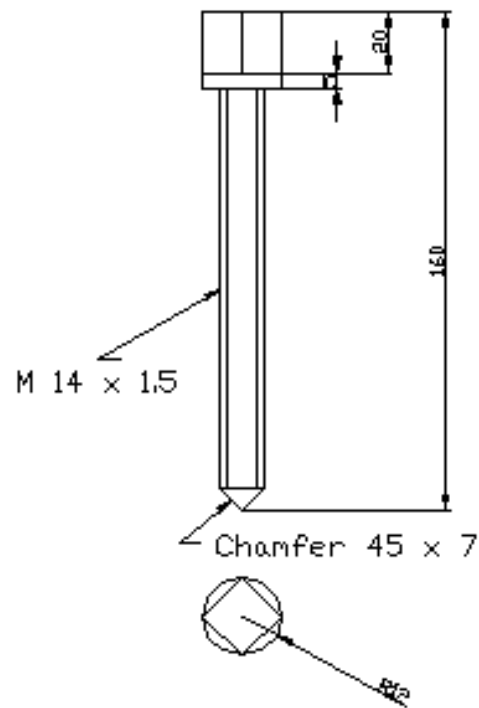
All material should be of Mild Steel

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Apr

LEG



M14 BOLT

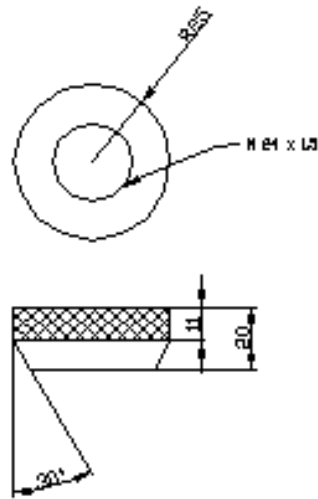


M10 NUT & BOLT

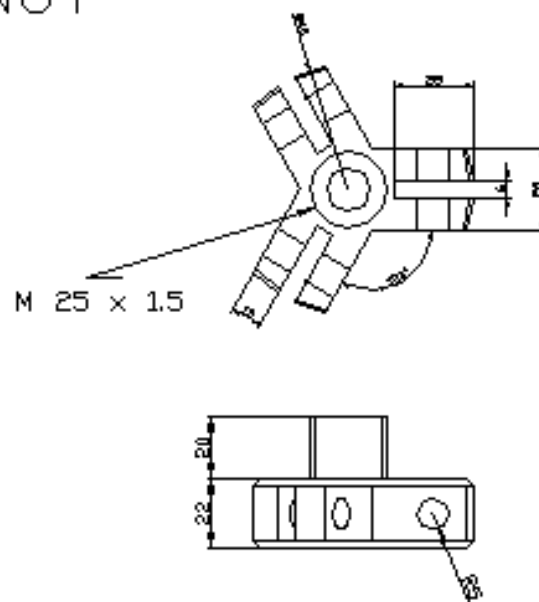


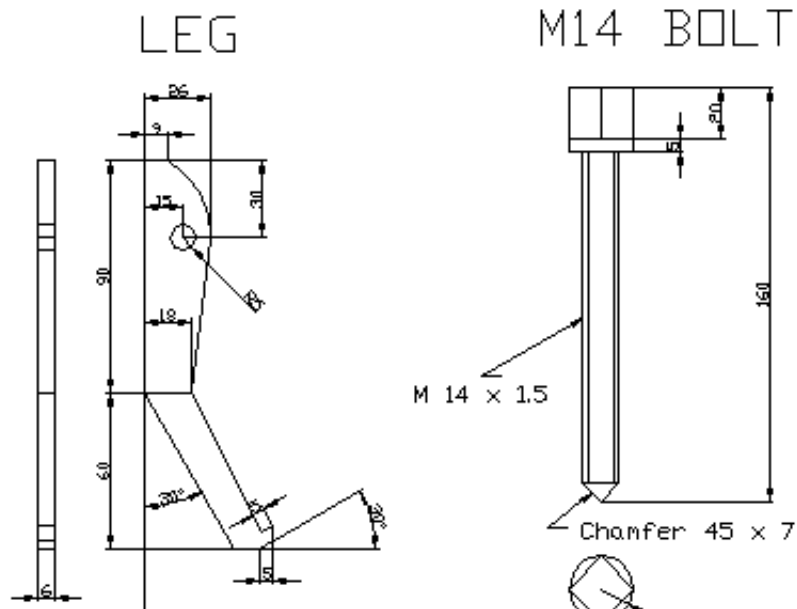
M10 x 1.25 nut and bolt

KNURLED NUT

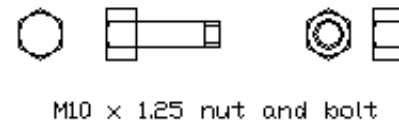


BODY

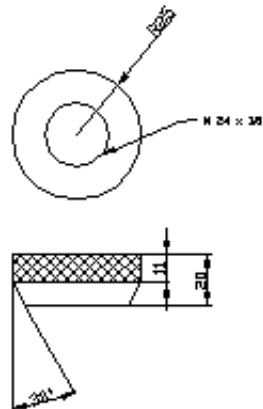




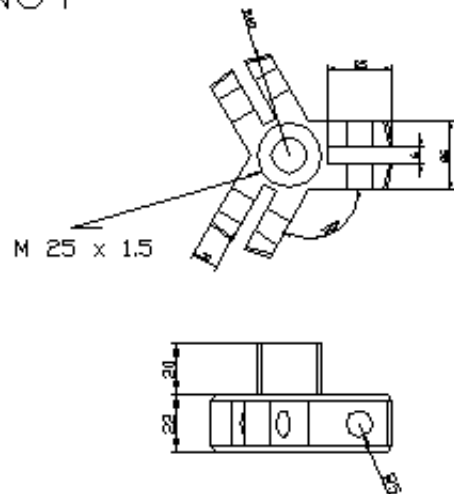
M10 NUT & BOLT



KNURLED NUT



BODY



No.	Description	Quantity
1	M10 x 1.25 nut & bolt	3
2	Body	1
3	Leg	3
4	M14 x 1.25 Bolt	1
5	Knurled Nut	1

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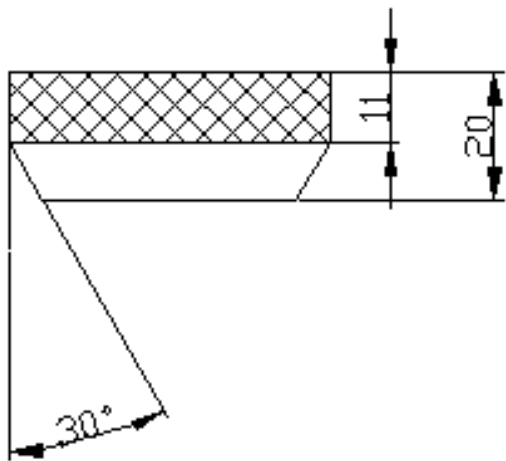
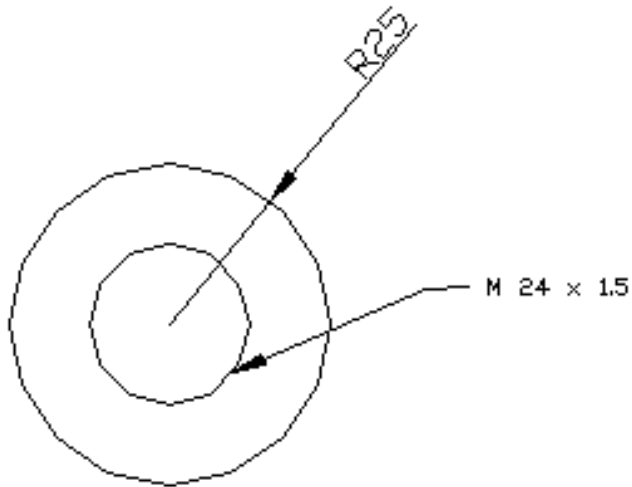
National Tool & Engineering Institute

Bearing Puller

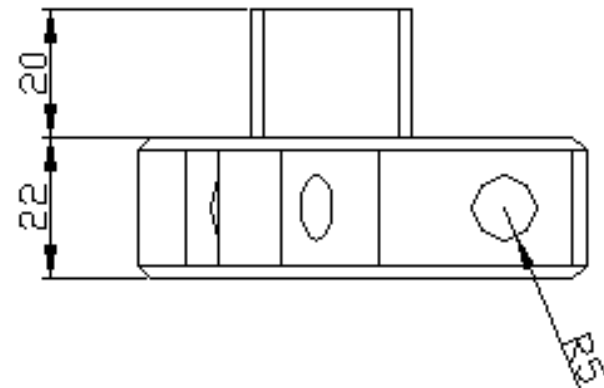
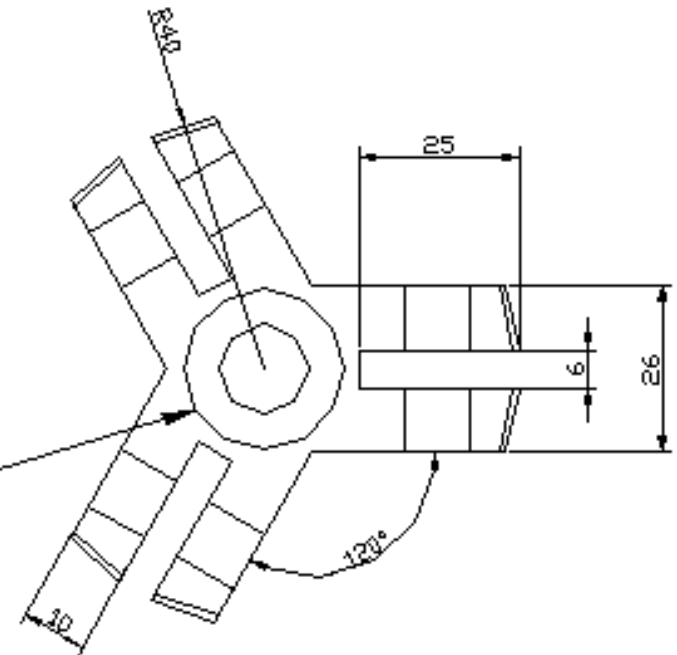
SIZE A2	FSION NO.	DWG NO.	REV
SCALE 1:1	SHEET		

KNURLED NUT

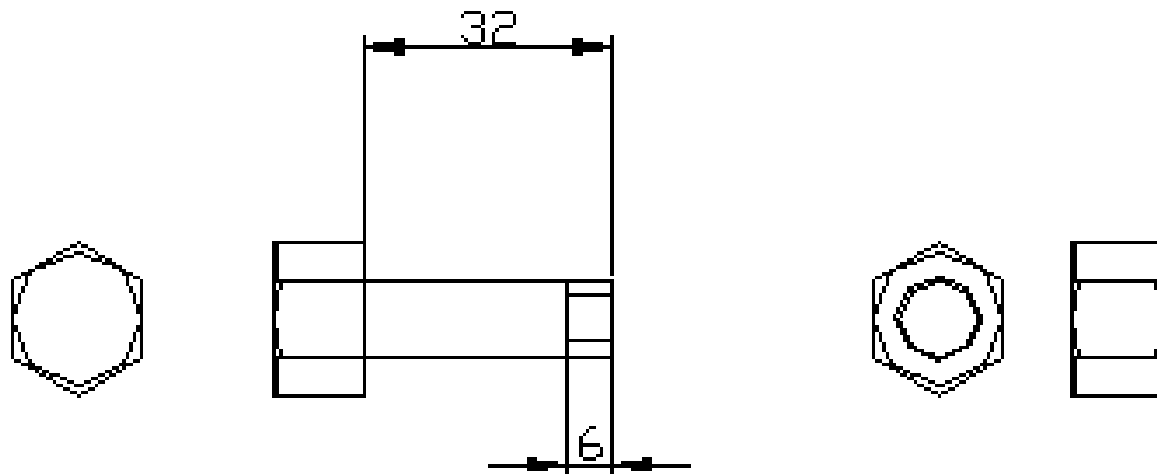
BODY



M 25 x 1.5



M10 NUT & BOLT



- M10 x 1.25 nut and bolt

OBJECTIVE MARKING
FORM 5
WorldSKILLS JAMAICA 2008

Skill Area Instrument Maintenance

Competitor # _____ Competitor Name _____

Criterion #	Aspect of Criterion Description	Mark allotted for objective marking	Total Mark received for objective Marking	Total Mark received for Subjective Marking	Overall Mark Awarded
1	Work piece is assembled according to standard procedure	30			
2	Dimensions are in accordance with job specifications	30			
3	Task is completed within the allotted time	20			
4	Tool designed is in accordance with industry specifications	20			

Total Mark awarded _____ Type of Medal _____

Signatures

Judge 1	Judge 2	Judge 3	Judge 4

<u>Chief Judge</u>
Date

CIS scoring

All competitors will be scored using the Computer Information System (CIS) – (400 to 600 possible points)

500 – Medallion of excellence

Top three scores will receive gold, then silver, then bronze

SUBJECTIVE MARKING
FORM 5A
SKILLS JAMAICA 2008

Skill Area: Instrument Making

Competitor # _____ **Competitor Name** _____

Criterion #	Aspect of Criterion - Description	Judge score (Out of 10)					Mark Awarded
		1	2	3	4	5	
1	Preparation						
2	Selection of Tools						
3	Use of Tools						
4	Job Knowledge						
5	Material Usage						
6	House Keeping						
7	Safety						
8	Presentation						
9	Creativity						
10	Originality						

**Formula for Subjective Marking total score:
 Exclude the highest and the lowest score and find the average of the remaining three.**

Total Mark awarded _____

Signatures

Judge 1	Judge 2	Judge 3	Judge 4

<i>Chief Judge</i>
Date

Score for subjective marking should be entered on form 5 for total score.

