Test Integration Guideline

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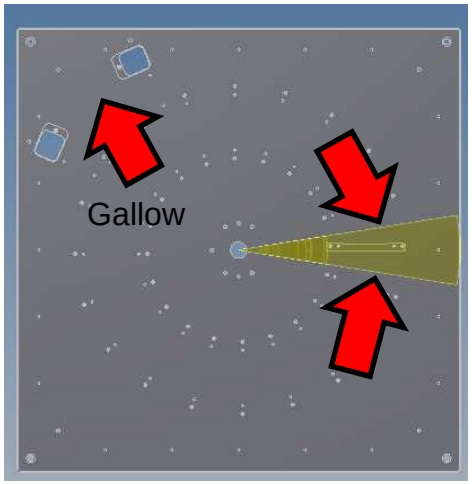
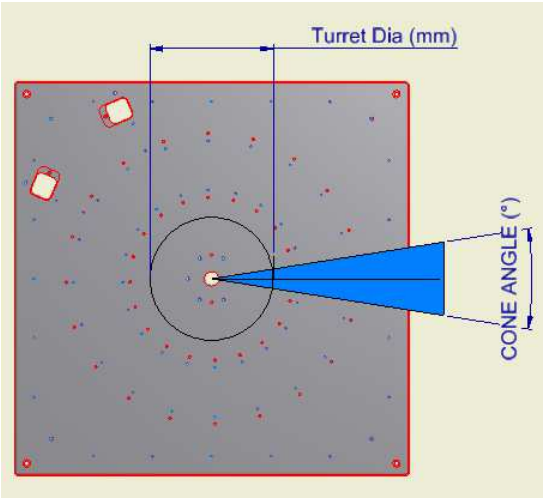
K:\Engineering\Mechanical Engineering\Common\Form-Macro-Procedure

Machine’s envelope (cone size) for NX16-32, NY20-32





- It is the area that the module can be positioned at different location.
- All the module is recommended to stay inside this zone in order to avoid collision with side modules.
- If customer’s socket is exceed the boundary, may need to taking up more position for the module.
- Gallow is the place where we mounted the swing arm. If the test module is fitted inside the cone size, we shall not having any problem to locate a test position around the gallow stand.

Platform	NX16	NX32/NY32	NY20
Turret dia	Ø200	Ø400	Ø250
Cone Angle	22.5°	11.25°	18°

- What fits inside NX16 may not fit-able for NY20, as NY20 has narrower cone size.
- For all Ismeca’s module shall design to the cone size of NY32 as it is the narrowest. Once it is possible for NY32, no issue to put it on NX16 and NY20.
- Risk occurs when customer socket is used for NX16, but when it is placed at NY20, collision happens.

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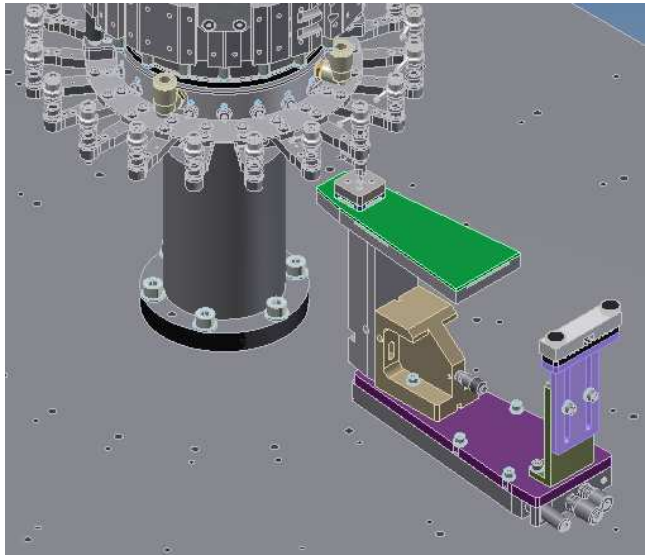
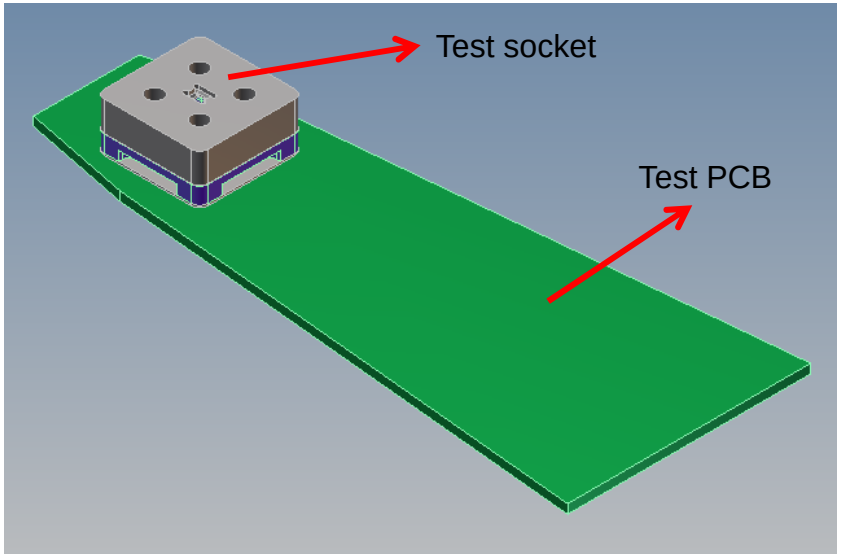
Required Info for Test Integration

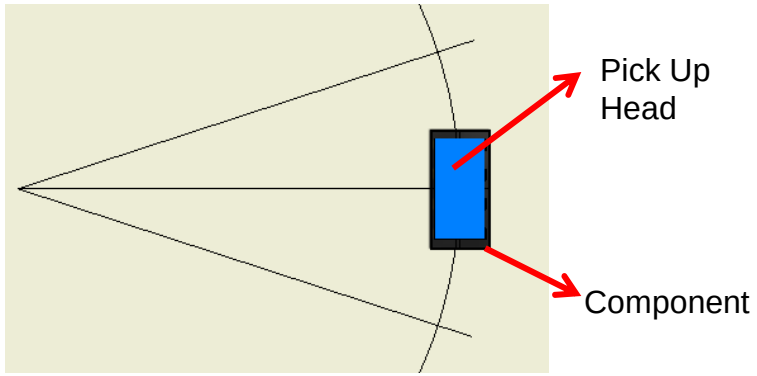
1. Test Socket and Test PCB

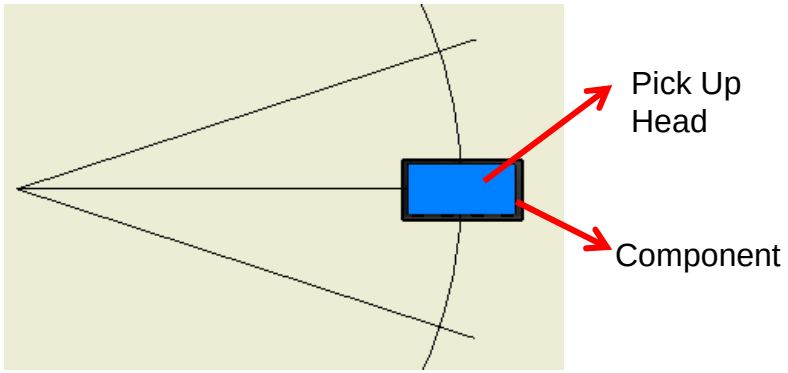




- Require step file of test socket and PCB for collision counter-checking.
- Require technical drawing of test socket and PCB for tolerances checking.
- Require physical sample of test socket and PCB.

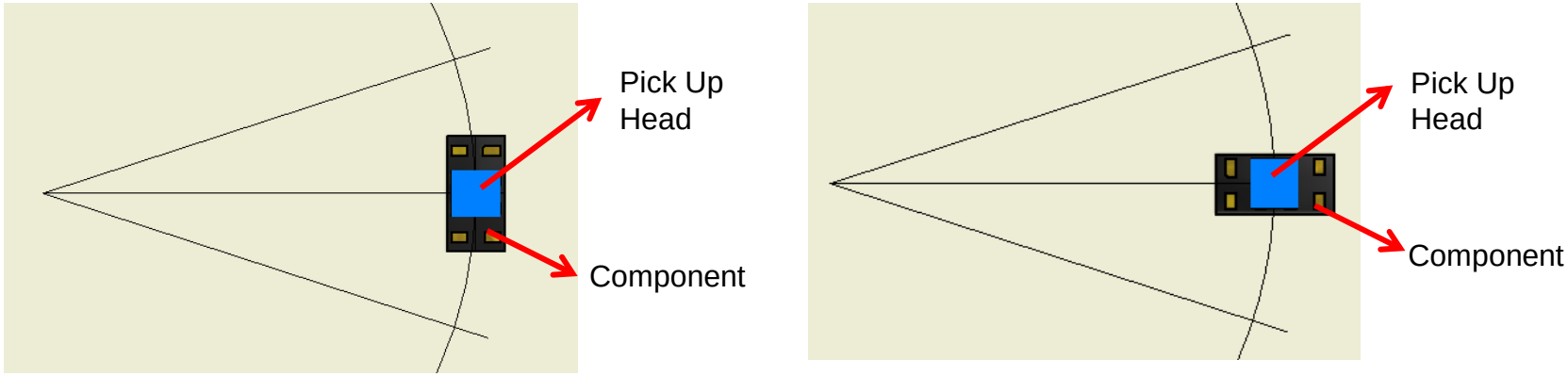
2. Pin #1 Orientation for Test





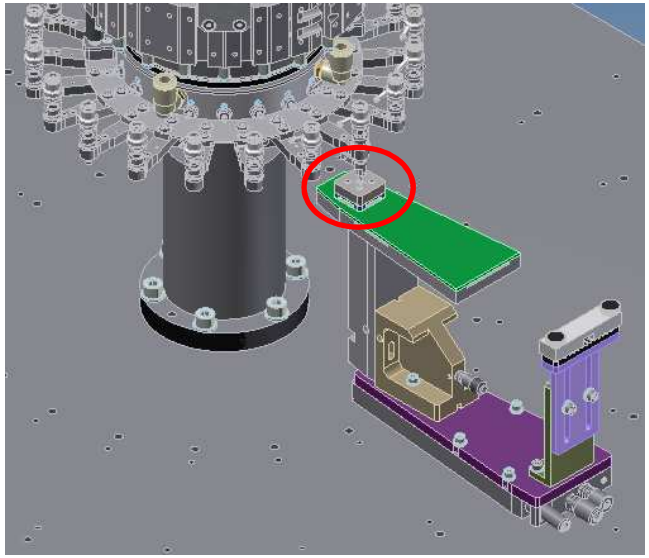
- Standard thumb of rule: the pick up head should follow the component orientation at test station to achieve the maximum test yield and minimize risk of component crack (internal/ externally).
- Pin #1 orientation info depends on the package type, not machine. Therefore this info is crucial for **all** packages.

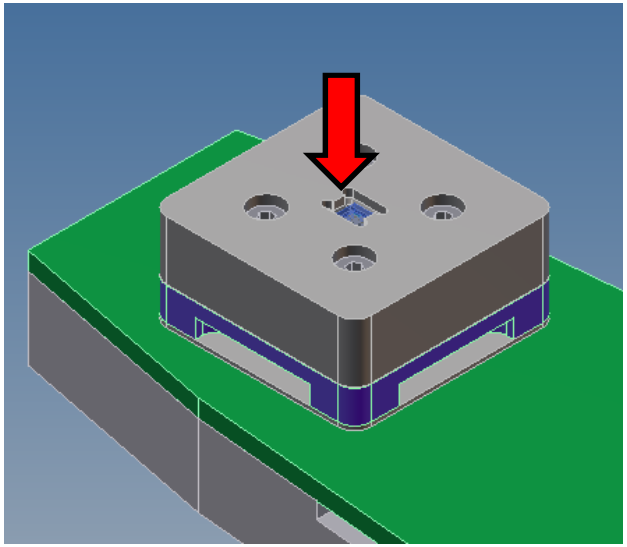
3. Square Pick Up Head



- Some customer may have different sources of test socket with different orientation. They may request for square pick up head to be compatible for both type of test socket.
- This may cause the test yield drop as the pick up head is not fully in contact with the component pads.
- Customer must develop FMEA and acknowledge that rectangular component using square pick up head won't cause component's quality issue
- The square pick up head is provided only upon request. If it does not mention, rectangular shall be the standard pick up head to provide.

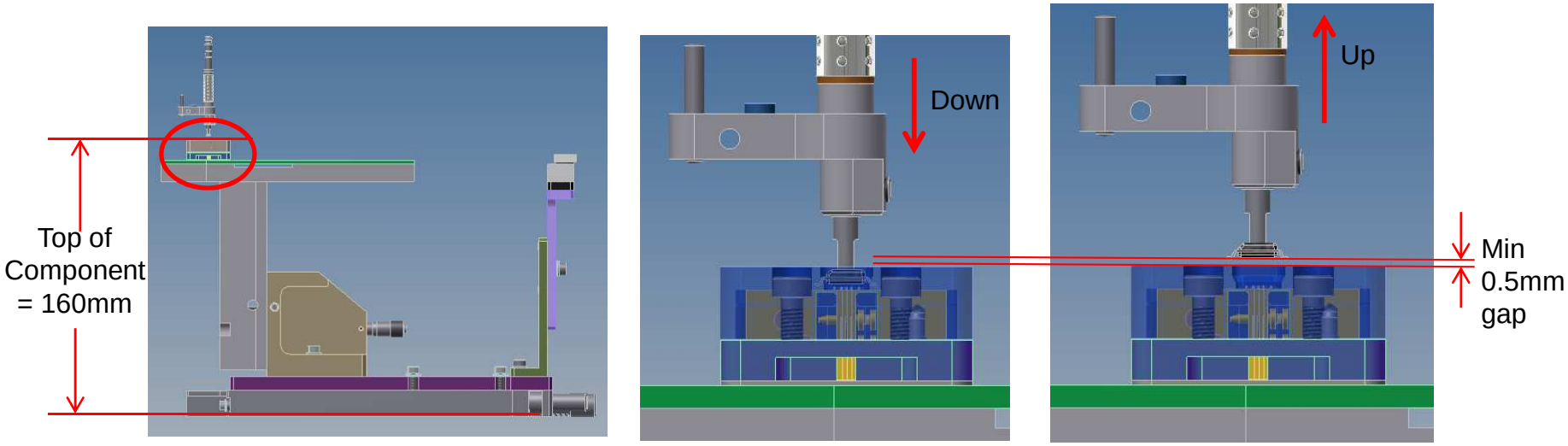
4. Test Force





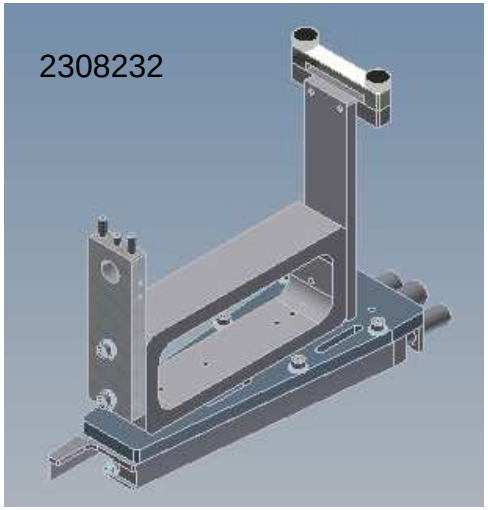
- Test socket belongs to customer, the design is un-known for Ismeca.
- Need to know the test force from customer to align with electrical department for independent z parameter setting.

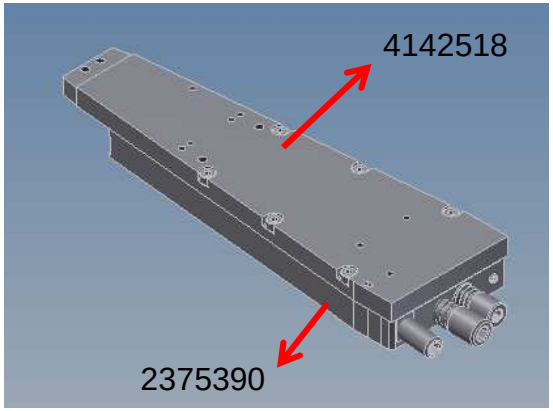
5. Turret Stroke and Machine UPH

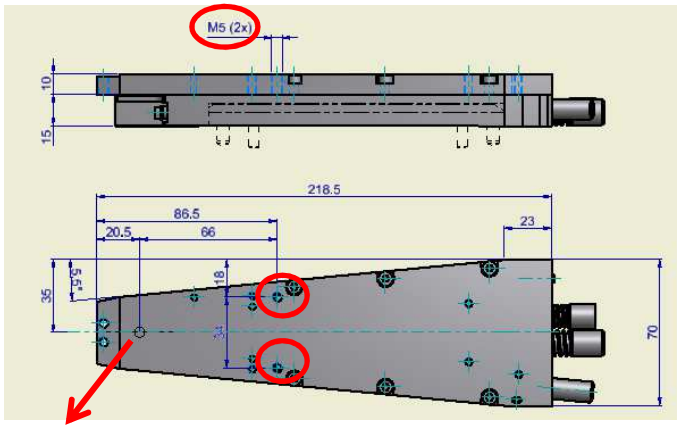


- The depth of test socket (how far distance to travel from the top to the blade/pogo) and component thickness are affecting the turret stroke.
- The turret stroke will affect the machine UPH.
- It is important to have a minimum 0.5mm gap when the pick up head retracted upwards.

Support for Test Integration







Pick up position

- 2308232 will be the standard version test support to provide to customer if there is no request to use other type of test support.
- In the event that customer does not want to have the test support, the locating (2375390) and plate base (4142518) will be provided. Dimension is given for the ease of customer to design their own mounting bracket.

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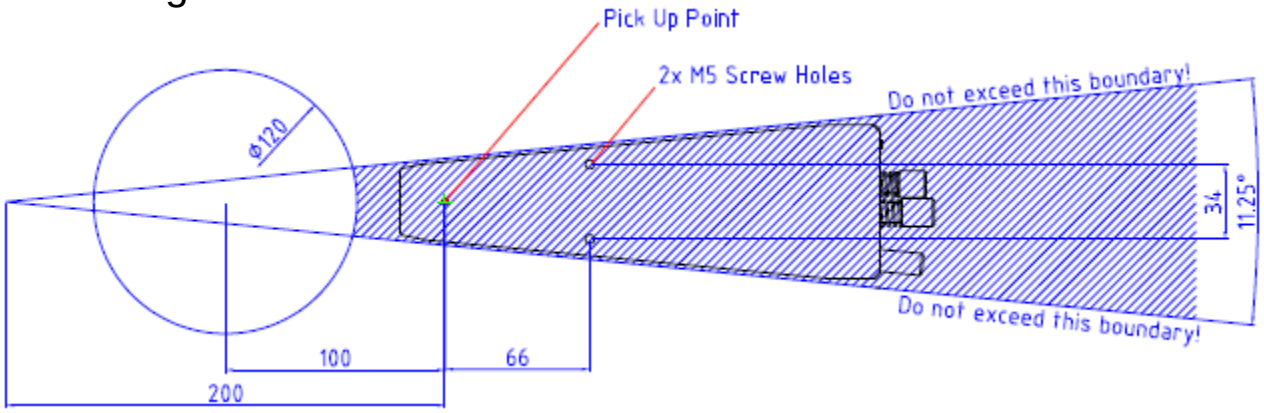
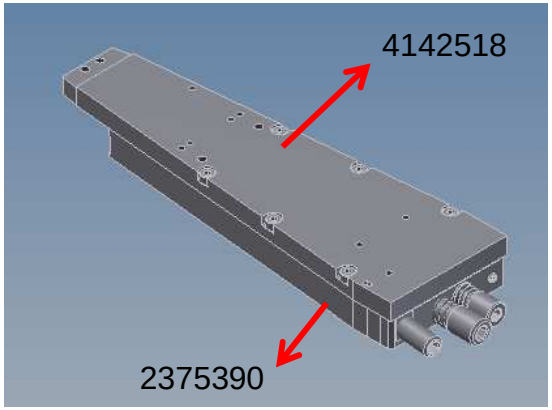
Conclusion

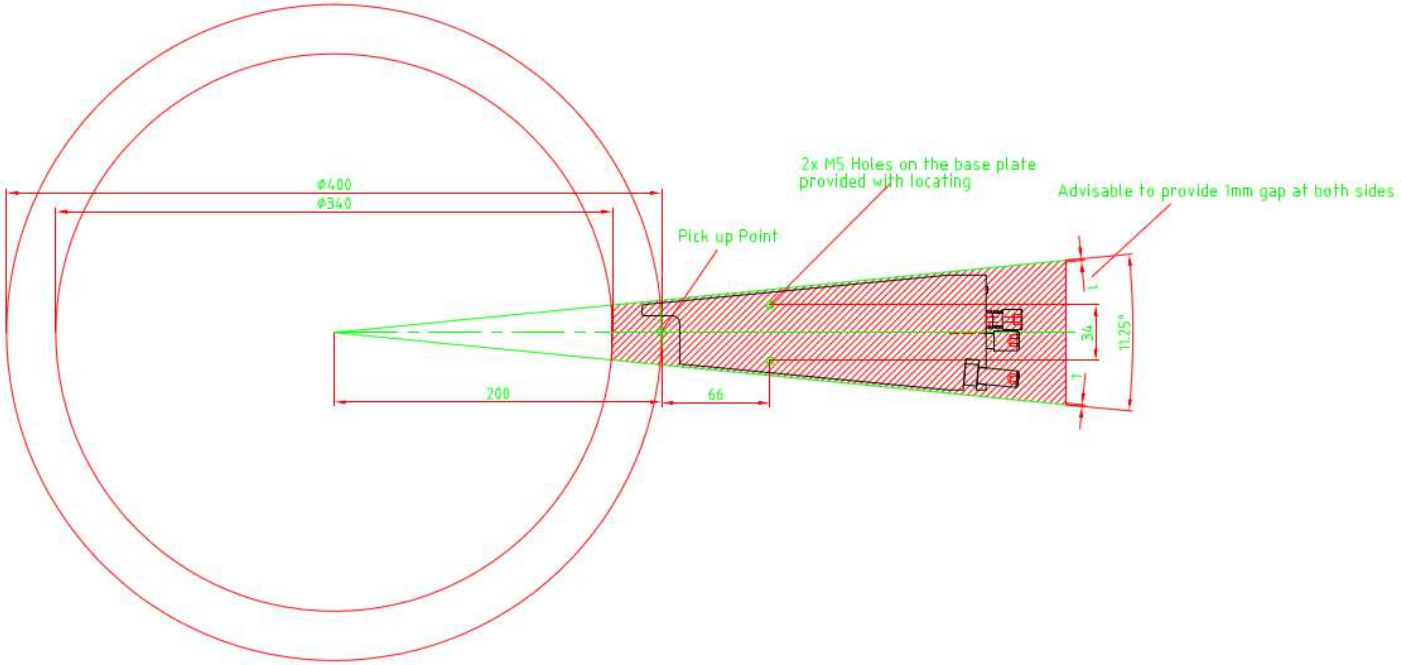
- Step file, drawing, and sample are crucial to design the test support, and to ensure that there is no collision with side module.
- Pin #1 orientation in test is crucial to define the pick up head orientation to obtain the maximum test yield.
- Test force is required for electrical department to calculate and define the independent Z parameter.
- Test socket depth may affecting the turret stroke and machine UPH.
- Dimension for machine envelop as below to give to customer for test socket design checking.



NY32 (W)



- In the event that customer does not want to have the test support, the locating (2375390) and plate base (4142518) will be provided. Dimension is given for the ease of customer to design their own mounting bracket.



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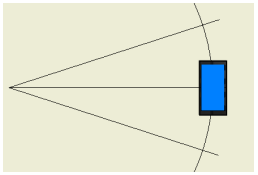
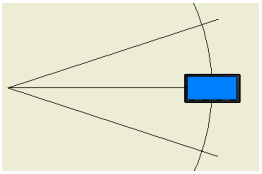
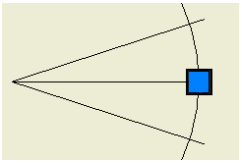
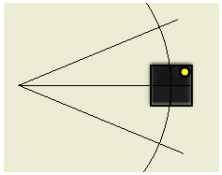
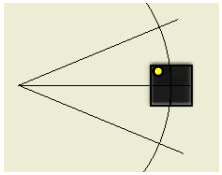
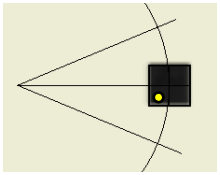
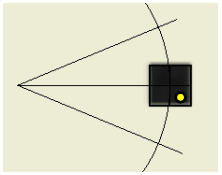
Test Integration Info Check List

To be filled for each component

Project Number:_____ **Component:**_____

Socket and PCB	**Step File** ☐ Yes *Remark:*	**Drawing** ☐ Yes *Remark:*	**Sample** ☐ Yes *Remark:*	
Component orientation on test	 **Horizontal towards turret** ☐ Yes *Remark:*	 **Vertical towards turret** ☐ Yes *Remark:*	 **Not applicable Square package** ☐ Yes *Remark:*	
Pin #1 on Test	 **Top Right** ☐ Yes	 **Top Left** ☐ Yes	 **Bottom Left** ☐ Yes	 **Bottom Right** ☐ Yes
Square pick up head needed?	⚠ Applicable only for rectangular package. If the check box is not ticked, rectangular pick up tip will be provided. ☐ Yes			
Test Force (Newton)				
Socket Depth				

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THE END