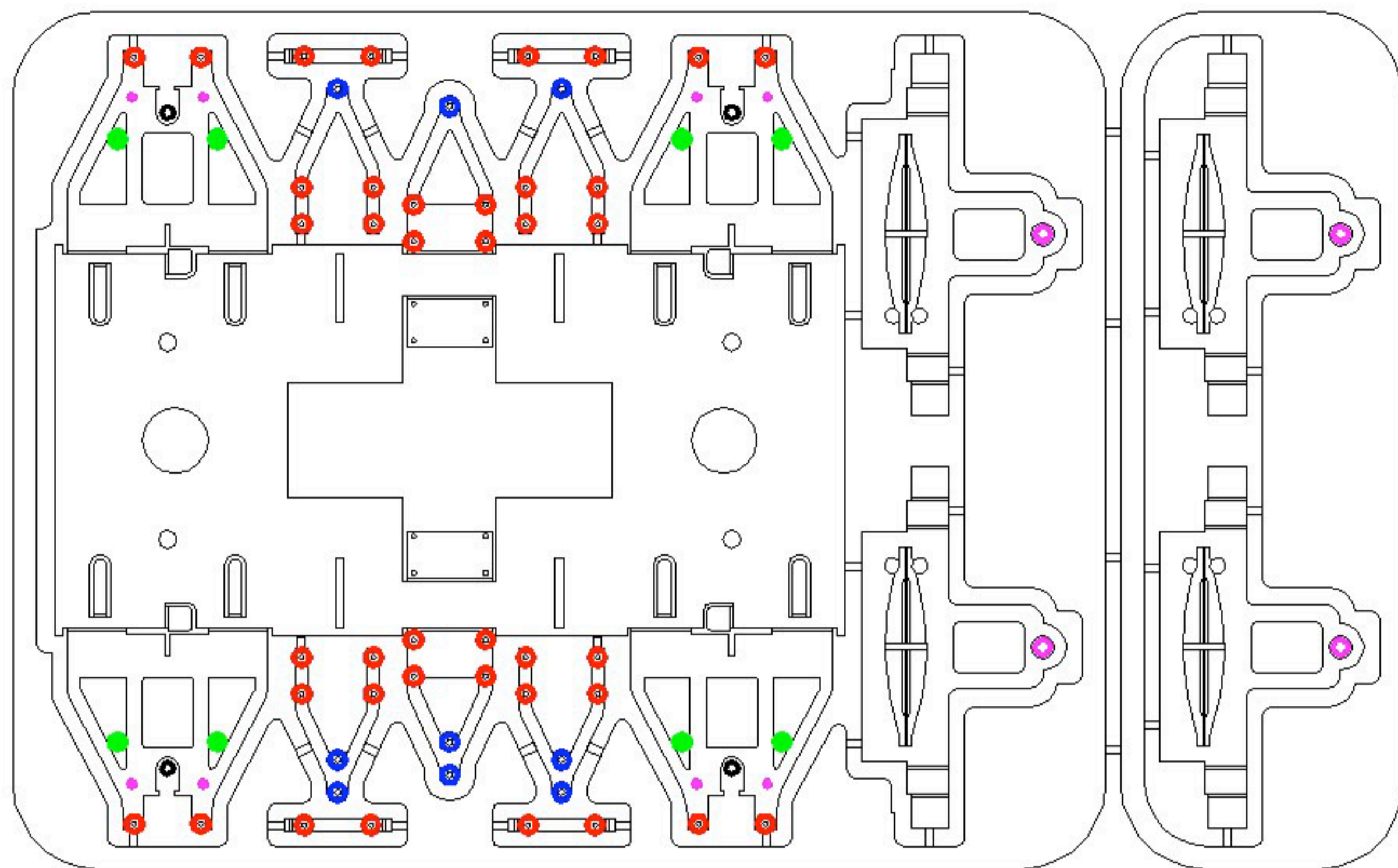


**IMPORTANT NOTES.** These products are designed to cover various options and configurations of axle guards and brake types found on the prototype. It is therefore imperative that the user has all the necessary information of the prototype to be modelled.



**STAGE 1**

Drill holes in parts as below before removing parts from frame.

Holes marked ● 0.35 mm dia 4mm scale

Holes marked ● 0.40 mm dia 4mm scale

Holes marked ● 0.60 mm dia 7mm scale

Holes marked ● 0.80 mm dia 7mm scale

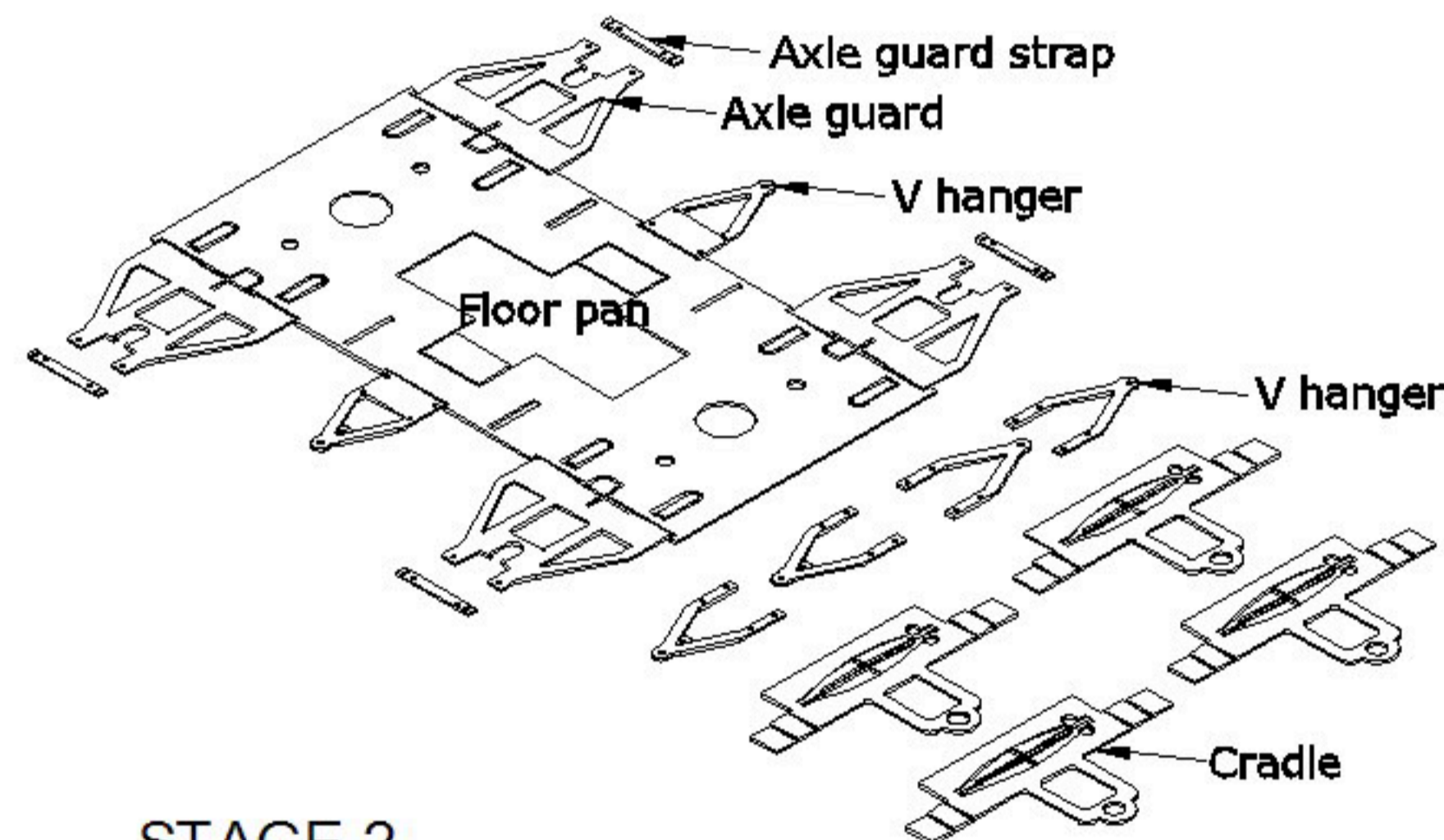
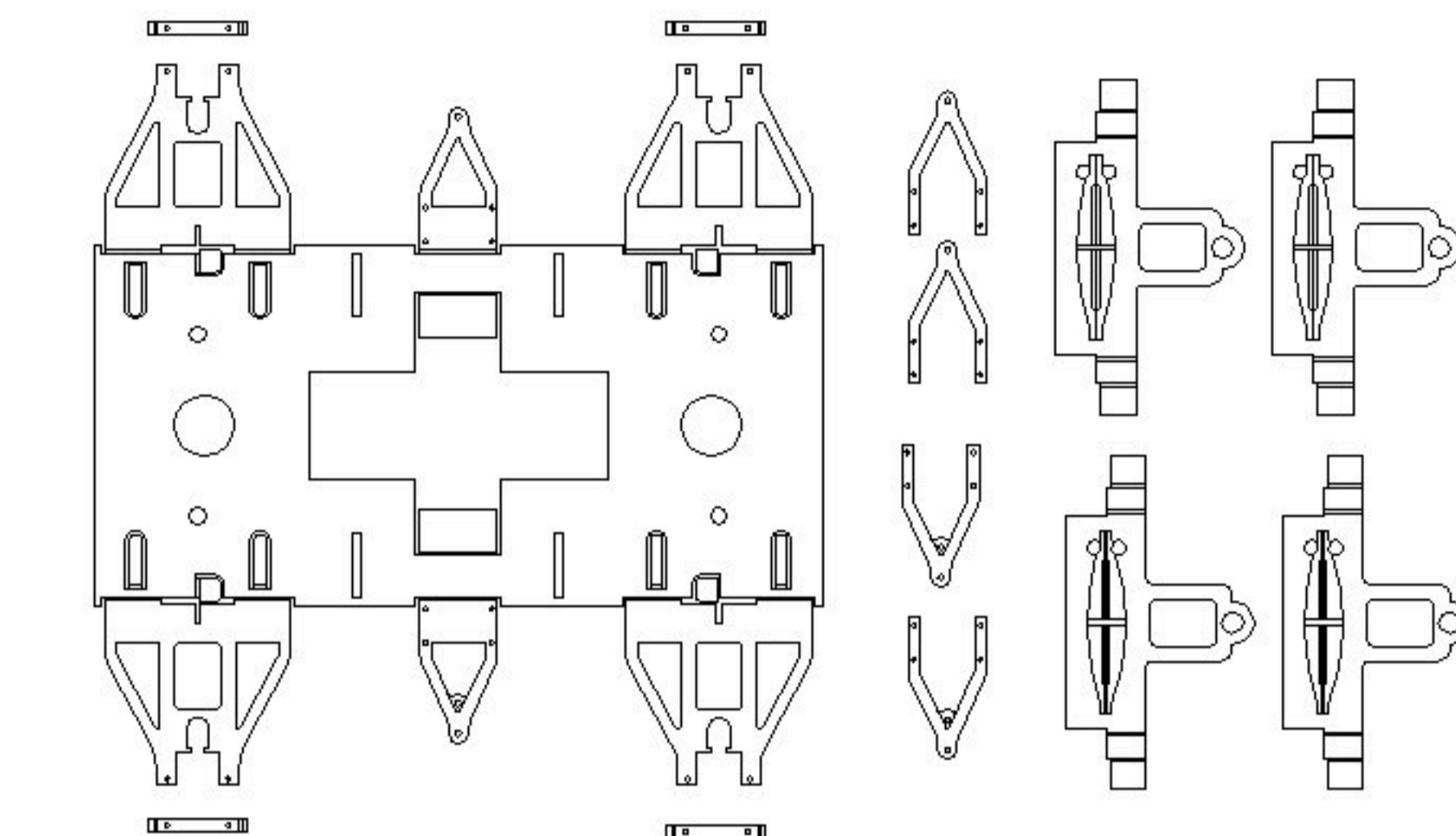
If modelling BR standard you will find half etched holes marked ●

You will have to know which holes to drill through as these vary considerably on the prototype.

If necessary ease out holes marked ● to fit bearings.

If necessary ease out slots marked ● to precise slide fit to bearings

Take care not to damage the small tags at the bottom of these slots as these prevent the wheelsets from dropping out of the completed model



**STAGE 2**

Parts removed from frame and deburred

PDF files required for assembly of all chassis types are as follows:  
INS 1000/1, INS 1000/2, INS 1000/3, INS 1000/4, INS 1000/5  
and INS 1001/24

Overview of PDF files required for variations of etched brake types:  
INS 1001/1

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Part No **INS 1000 SHEET 1**

Part Name

Material

Date Drawn

Scale

**Remove all sharp edges**

**All dimensions in MM unless otherwise stated**

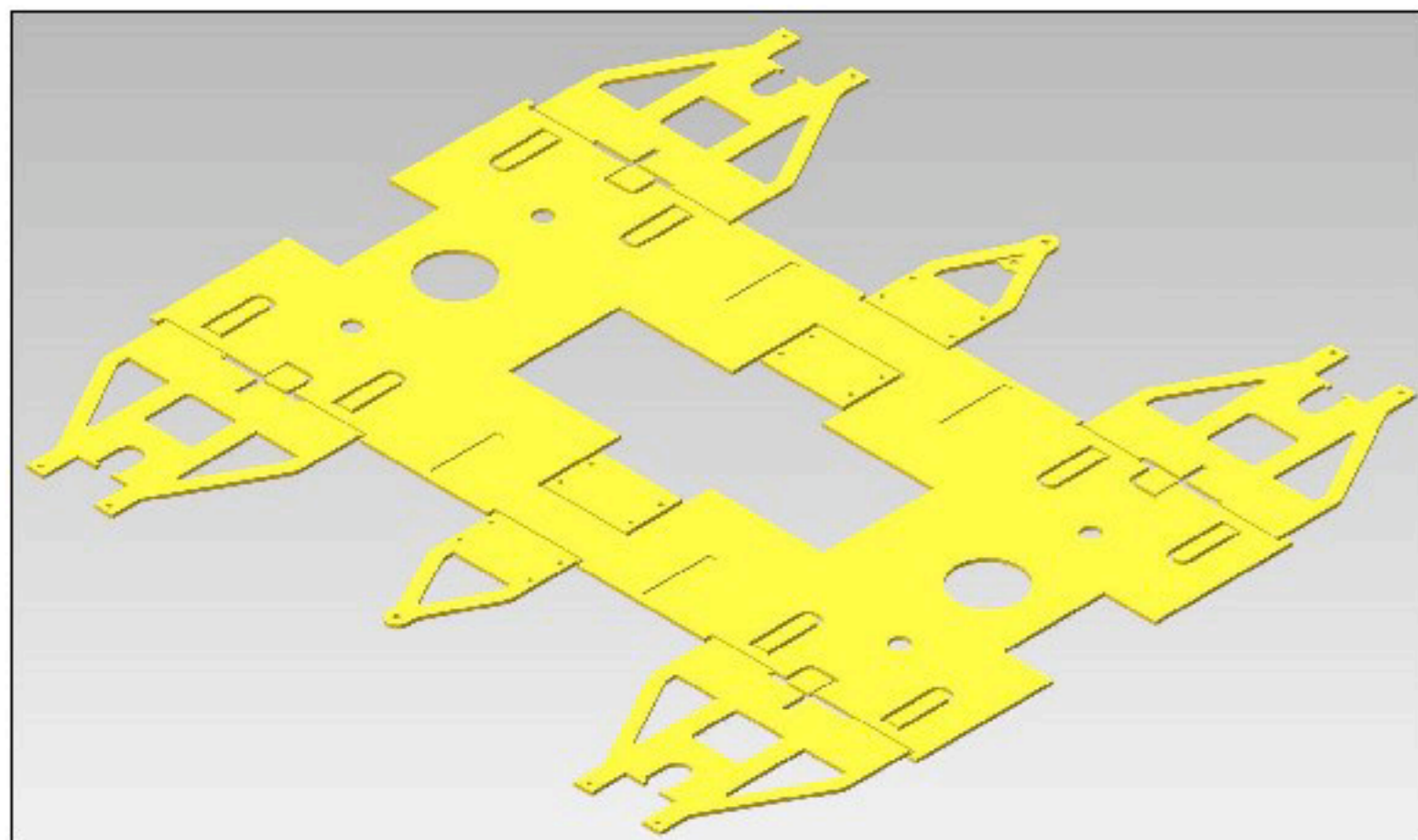
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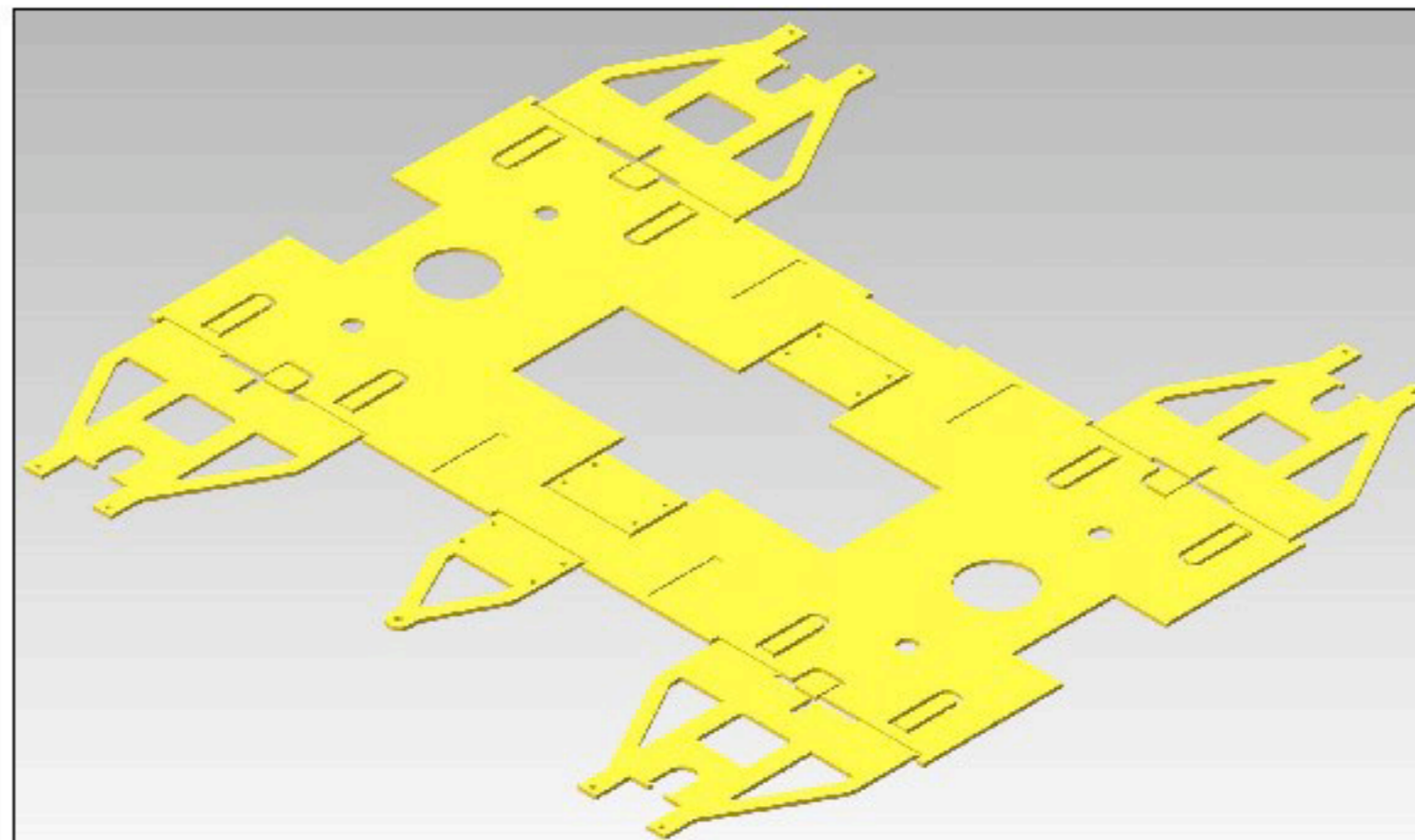
Instruction number

**INS 1000/1**

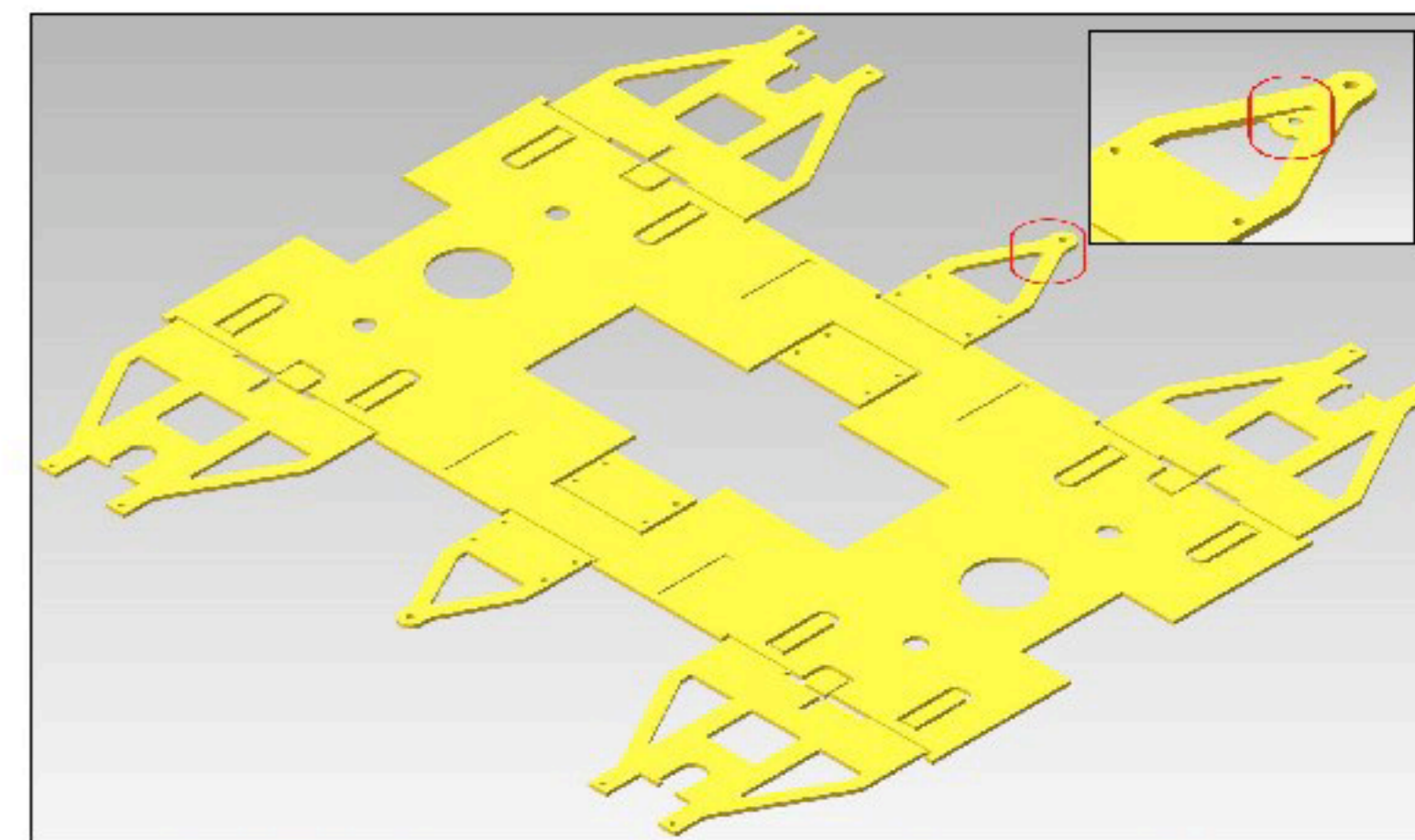
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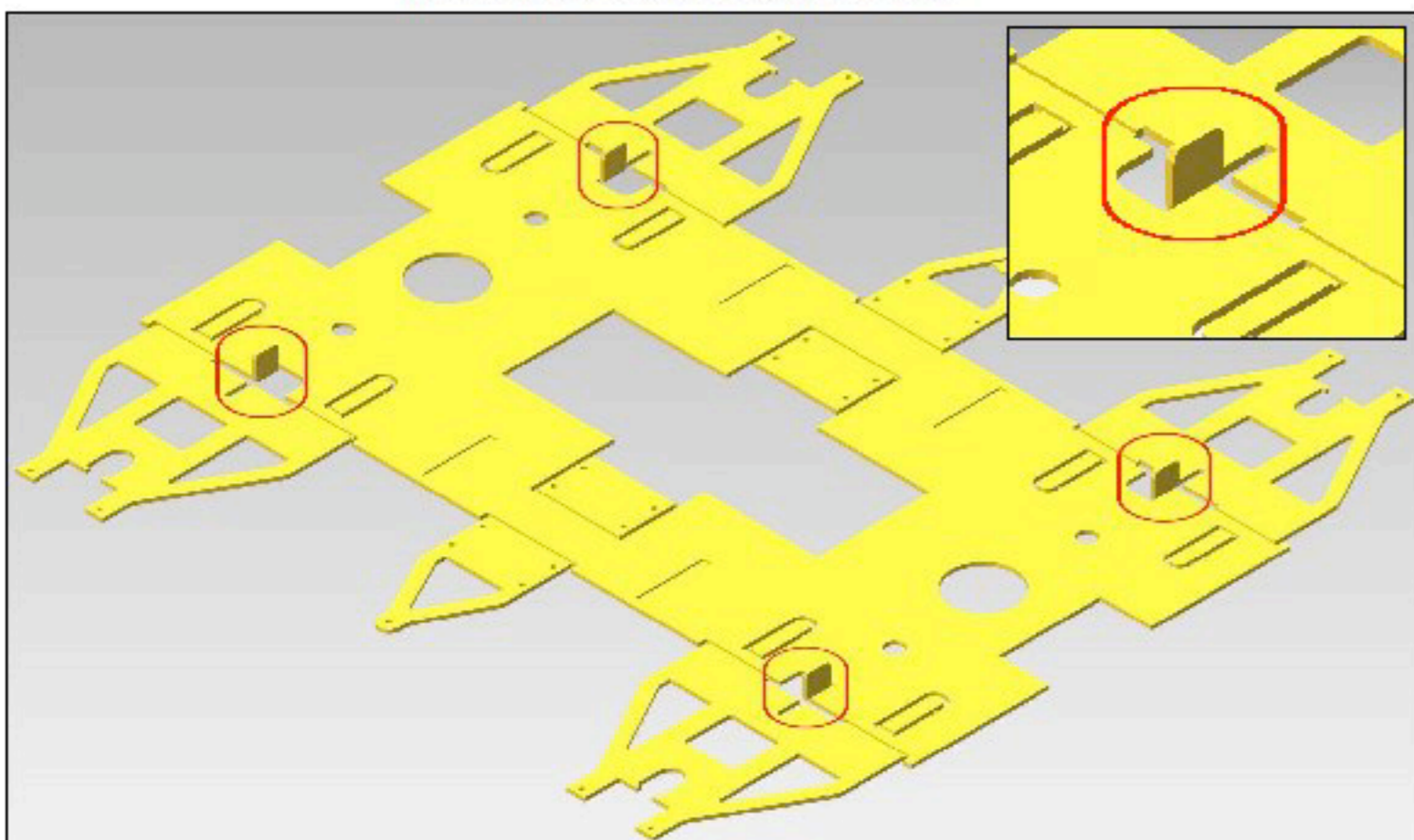
STAGE 3. As supplied for Morton brakes.  
i.e. Brake levers both sides.



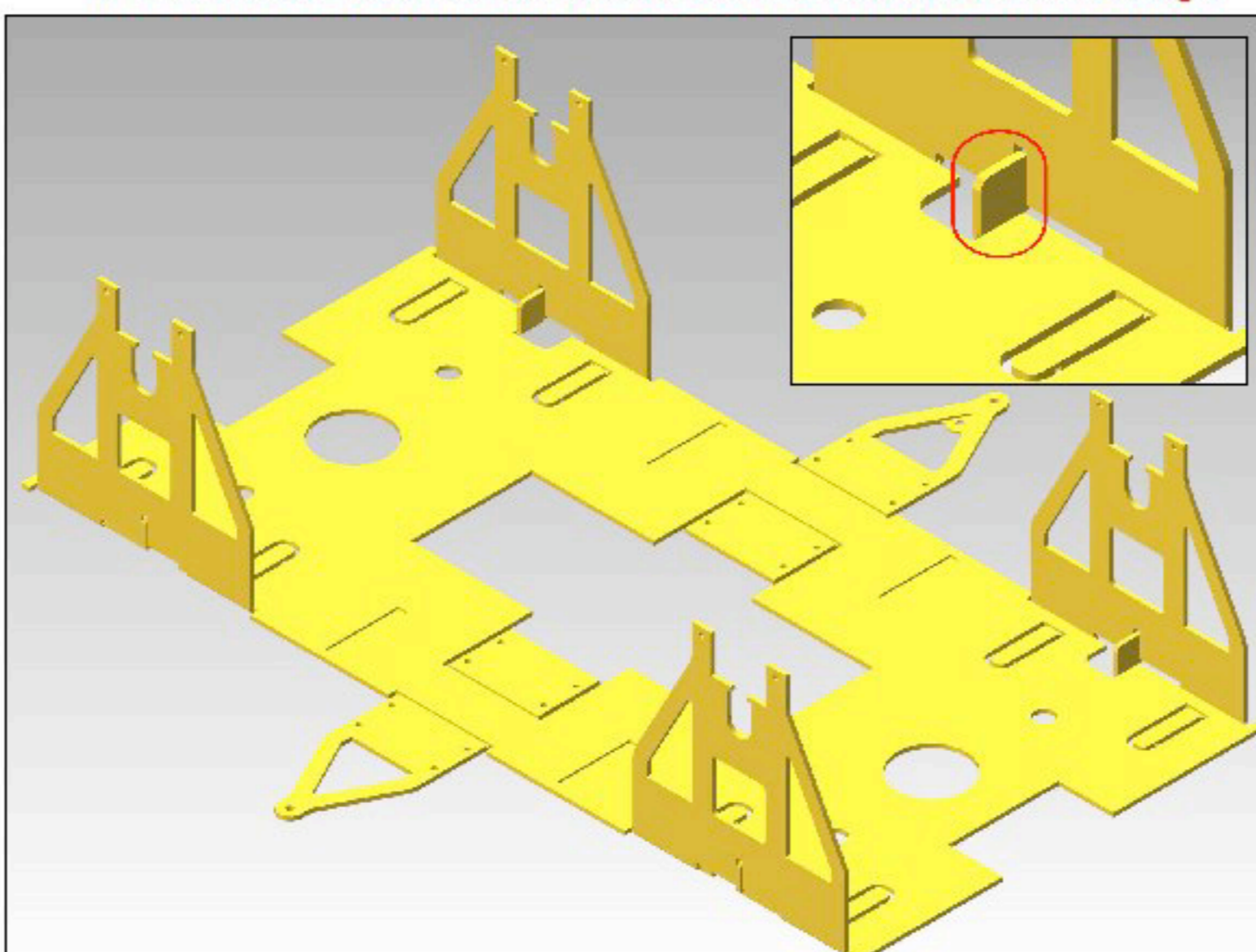
STAGE 4. If fitting brake levers one side only V hanger removed.  
**IF FITTING ETCHED BRAKES, DO NOT remove at this stage.**



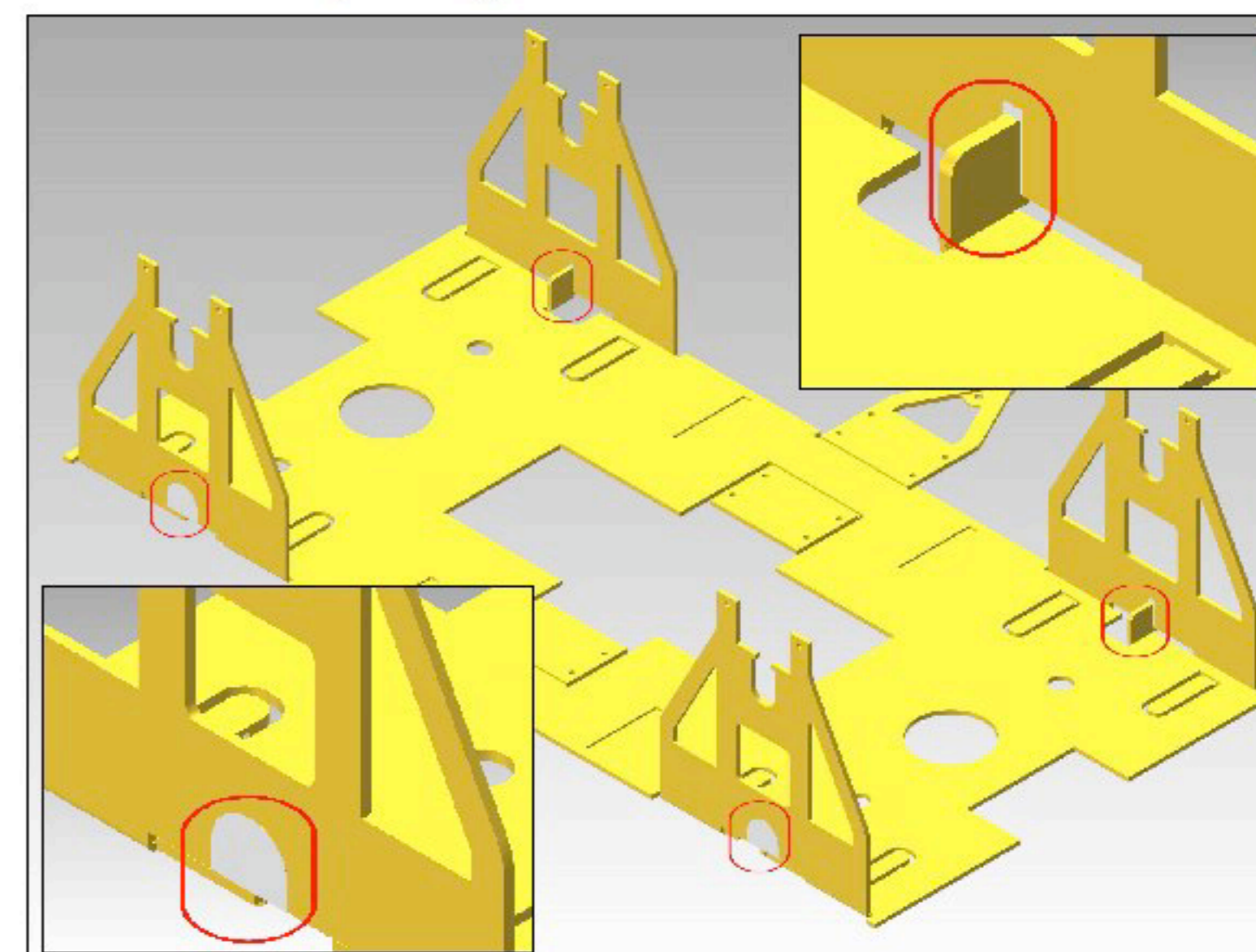
STAGE 5. If fitting brake levers both sides but NOT Morton,  
modify V hanger as shown i.e. remove half etch



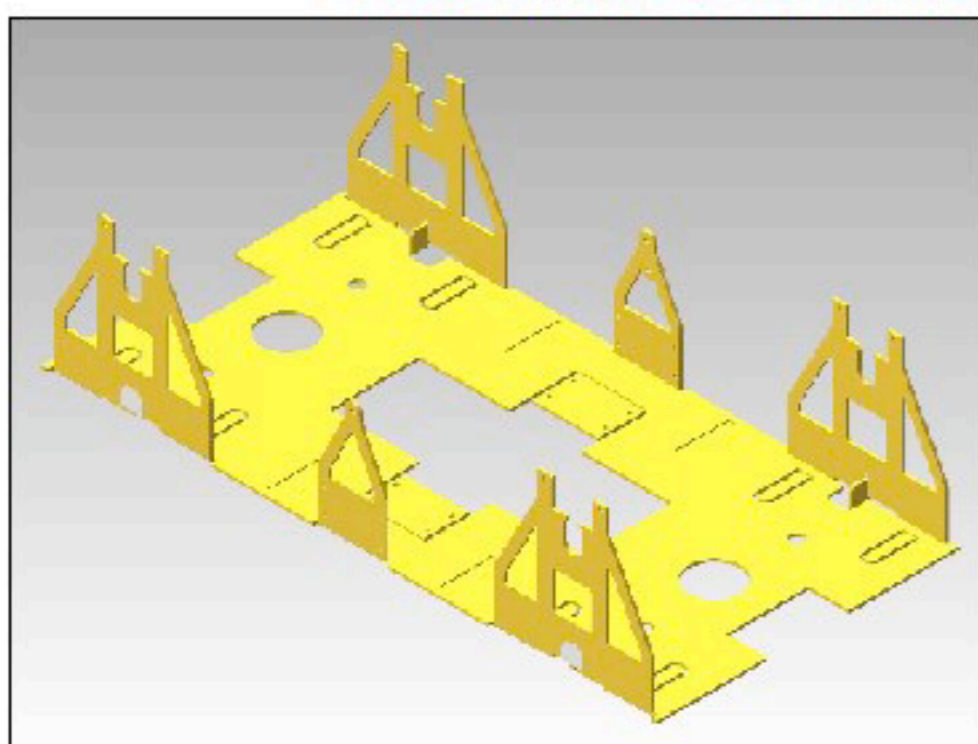
STAGE 6. Fold 4 spring stops shown to 90 degrees  
**THESE MUST BE THE FIRST FOLDS**



STAGE 7. Fold 4 axle guards to 90 degrees  
These must interlock with spring stops folded at Stage 6



STAGE 8. Ensure axle guards are 90 degrees to floor pan  
Solder outer face of axle guards to the spring stops and smooth off  
Remove any solder on the inside joint of axle guards to spring stop  
(this is important to enable the cradle to be flush with the axle guard)



STAGE 9.  
Fold V hangers as required  
as shown to 90 degrees

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Part No **INS 1000 SHEET 2**

Part Name

Material

Date Drawn

Scale

**Remove all sharp edges**

**All dimensions in MM unless otherwise stated**

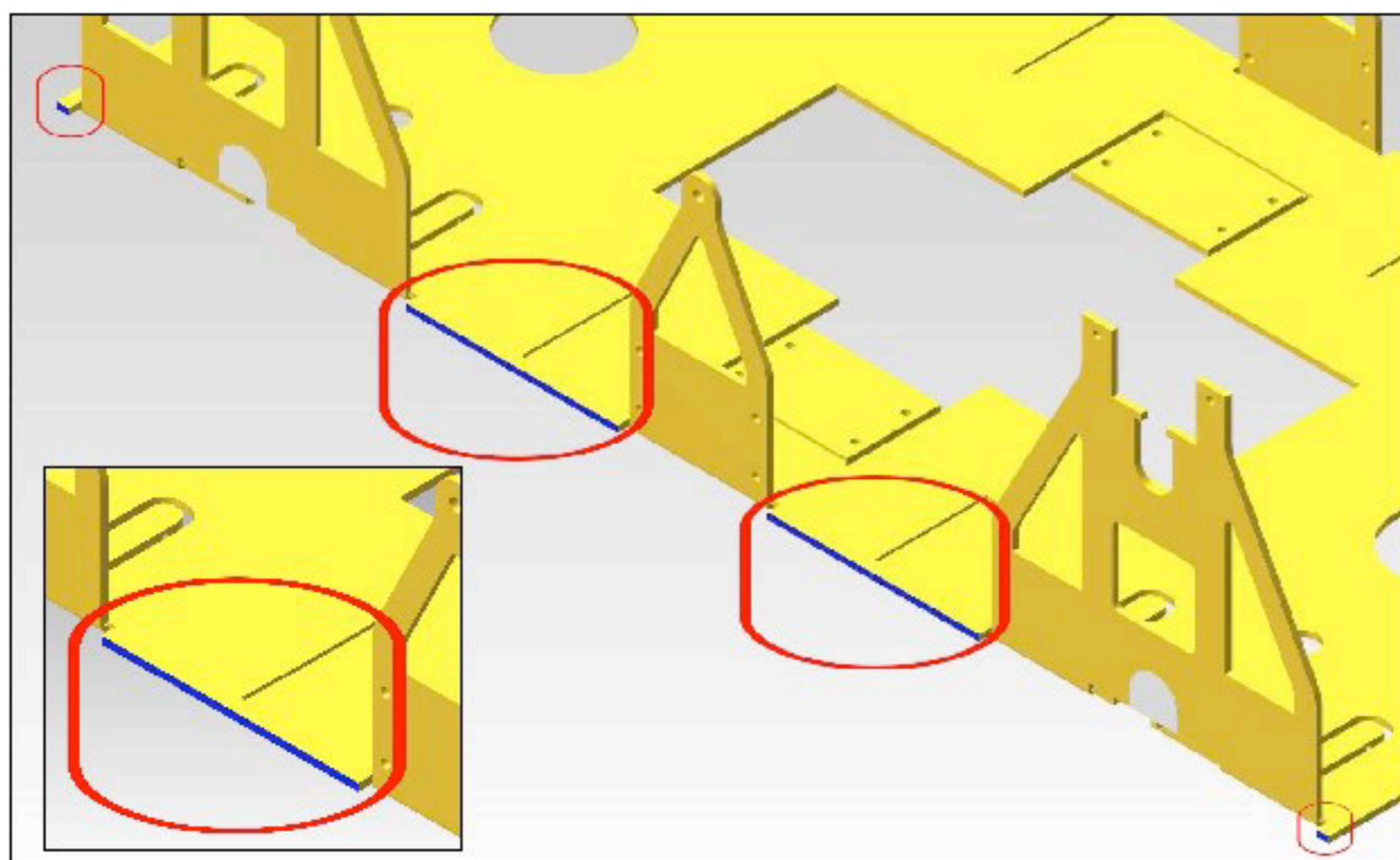
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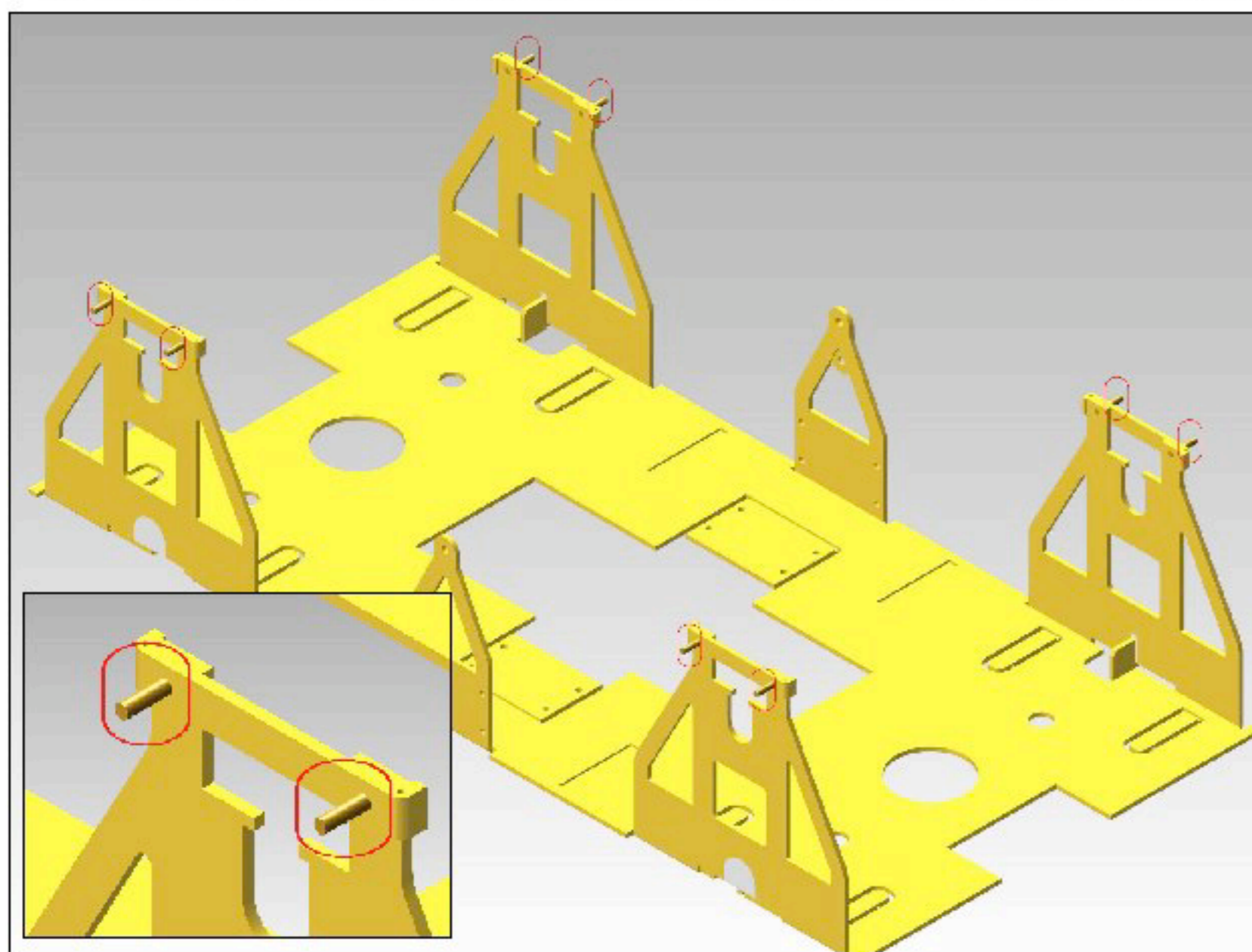
Instruction number

**INS 1000/2**

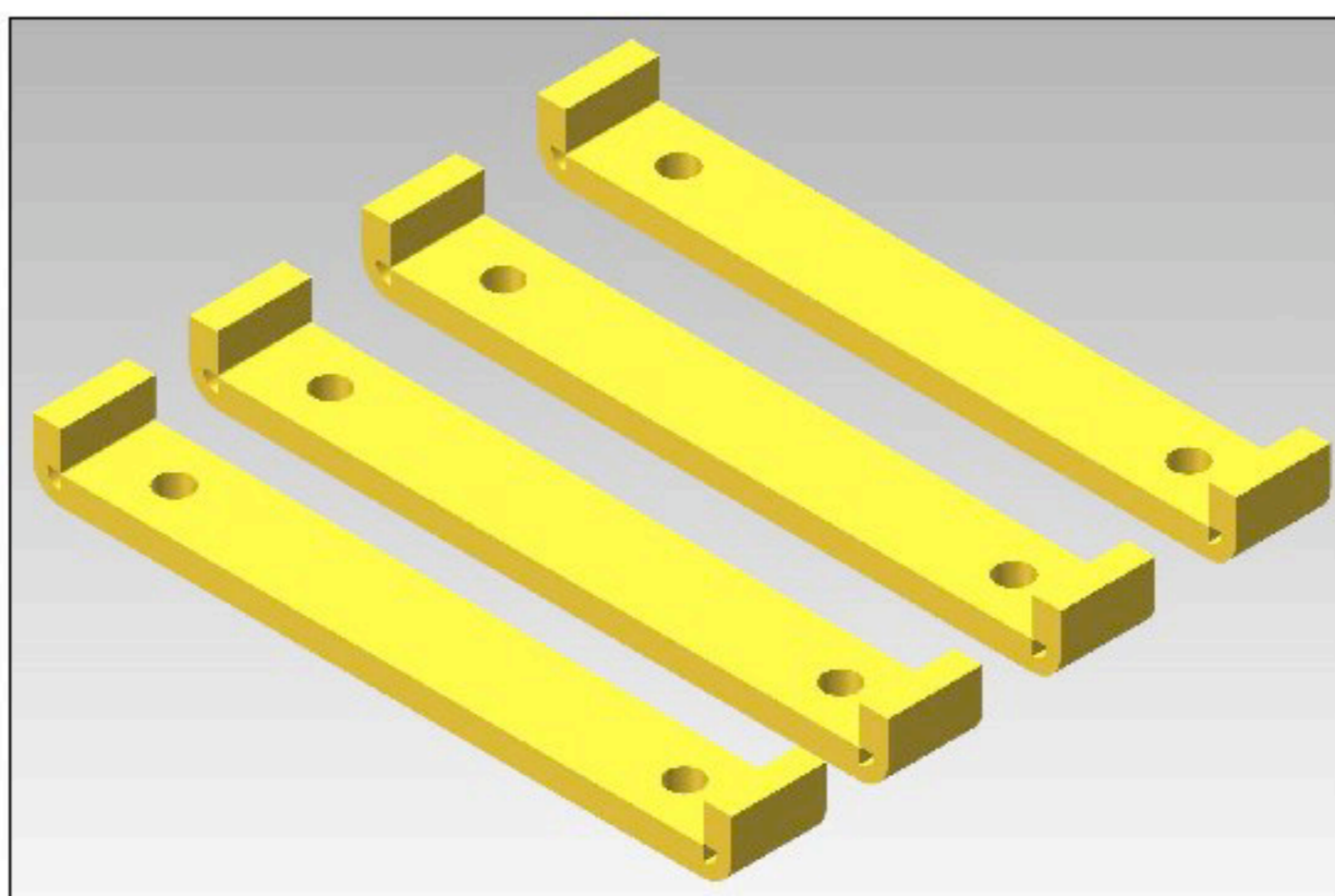
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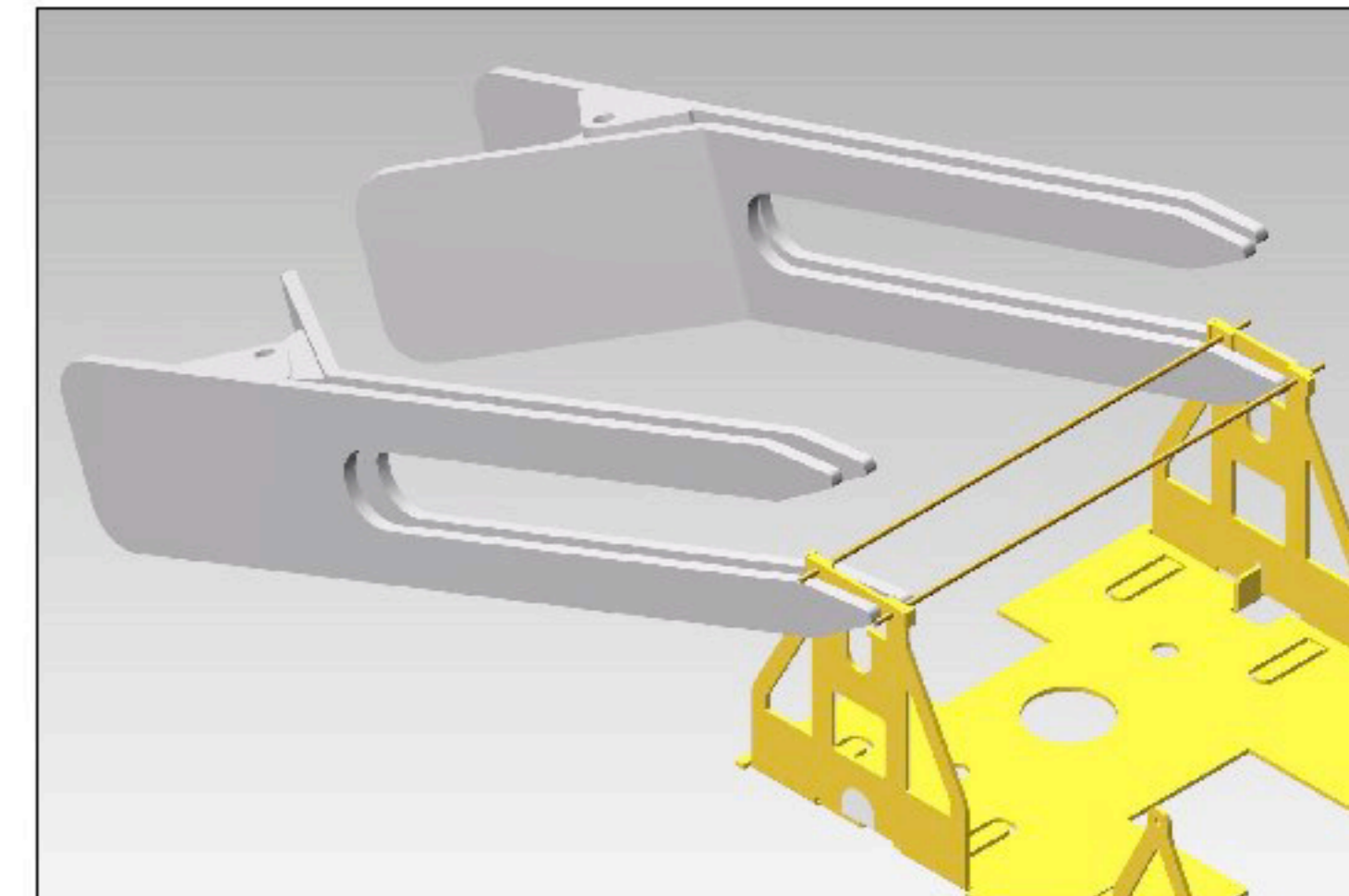
STAGE 10. Faces marked in BLUE may need filing down equally on both sides of etch to fit snugly between solebars as this may vary between RTR and kit manufacturers products.



STAGE 13. Cut brass wires from between the axleguards and file the ends of the wire flush with the inside of the axleguards leaving the wires on the outside of the axleguards approx 2 to 3 mm long for the moment (as these will be used later in the fitting of etched brake gear). If etched brake gear is not to be fitted, reduce this length to 0.6 mm for 4mm scale and 1.0mm for 7mm scale.

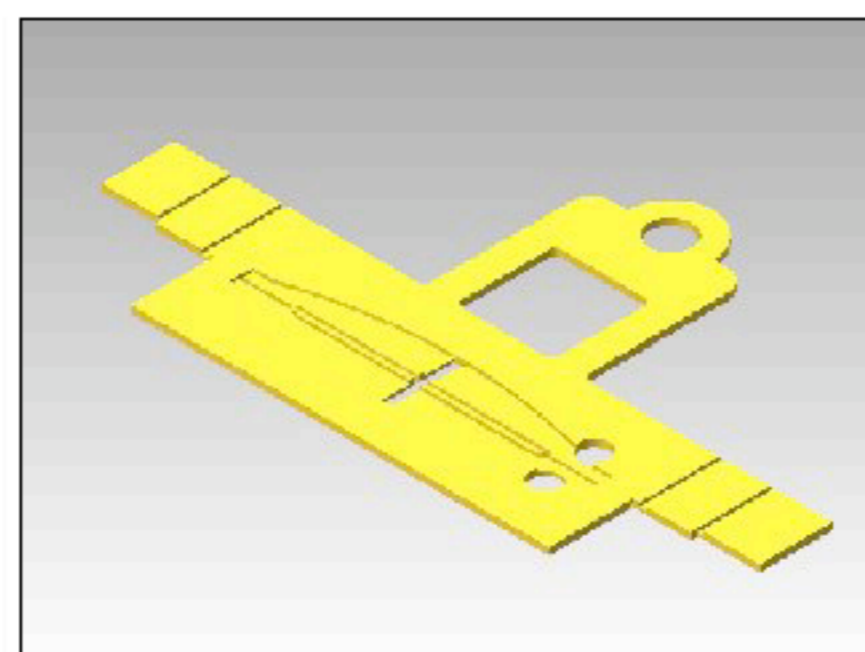


STAGE 11. Fold both ends of axle guard straps as shown. Then cut 4 pieces of (0.33 dia 26mm long approx of straight brass wire 4mm scale) (0.60 dia 46mm long for 7mm scale) 8 will be required for BR heavy duty type. Wire NOT supplied.



STAGE 12. Align axleguard straps onto axleguards using 2 straight wires positioned centrally and clamp into position using aluminium hair clips. Apply a small amount of solder paste on the wire on the inside of the axleguards and apply heat on the wire inside the axleguards.

STAGES 14,15, 16 and 17 below are applicable for fixed brake hangers only.  
For moving brake hangers see STAGES 18,19,20 and 21.

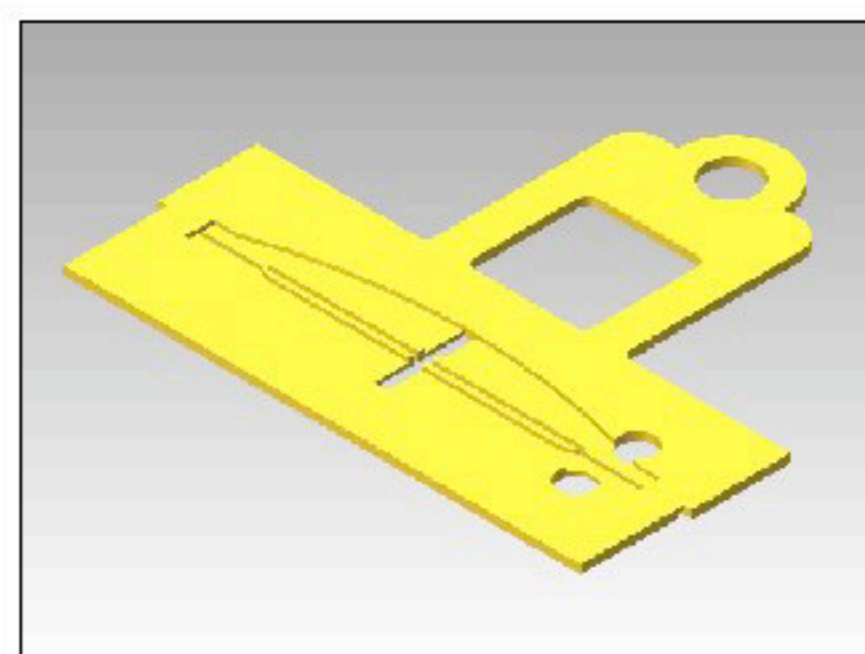


STAGE 14.  
Cradle as supplied

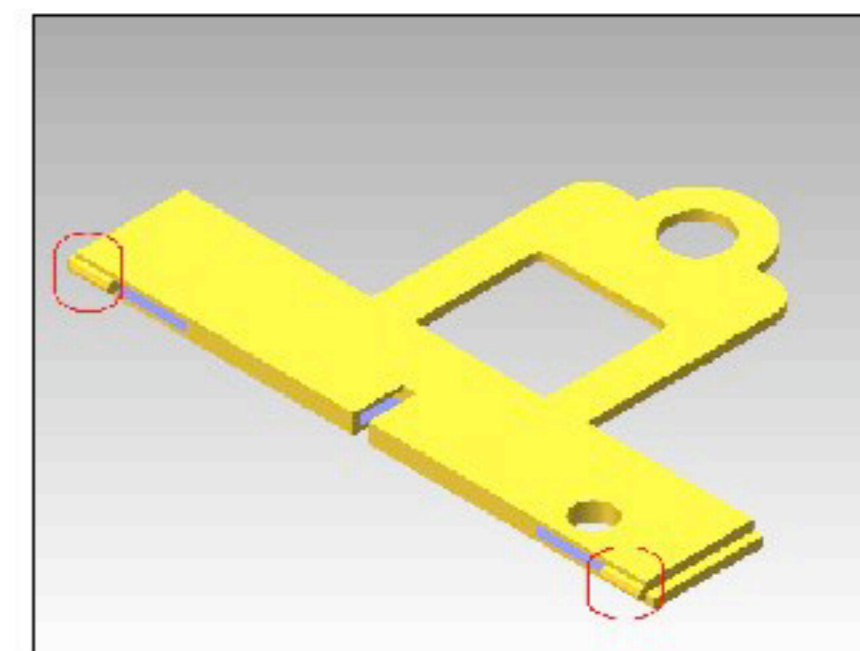


STAGE 16.  
**IMPORTANT:** the half etch areas for this fold are located at each of the spring pocket and on the outside of the fold.

Fold to 90 degrees as shown. This is the first step in creating the spring pocket, shown in blue.



STAGE 15.  
Cradle modified by removing both ends as shown.



STAGE 17.  
Now fold through to 180 degrees: there will be a noticeable resistance but continue; the etch will make a cracking noise, then close as shown.

The result of the half etch being on the outside can be seen circled in red

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Part No **INS 1000 SHEET 3**

Part Name

Material

Date Drawn

Scale

Remove all sharp edges

All dimensions in MM unless otherwise stated

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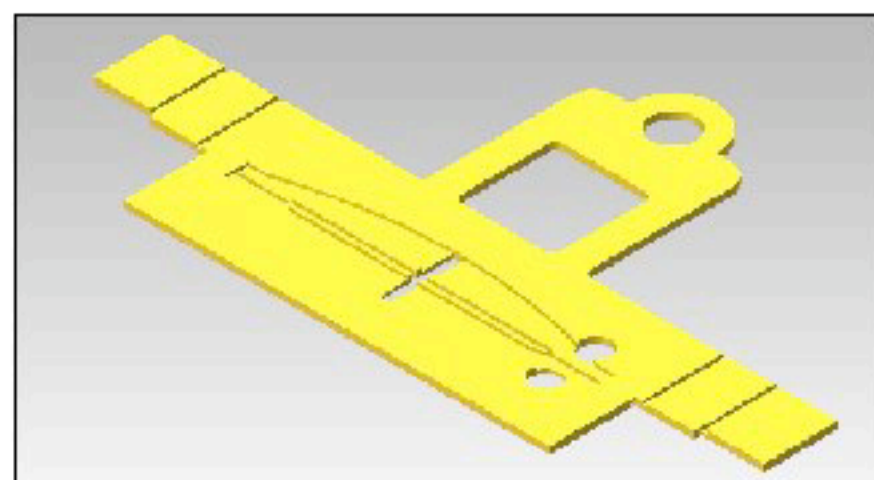
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Instruction number

**INS 1000/3**

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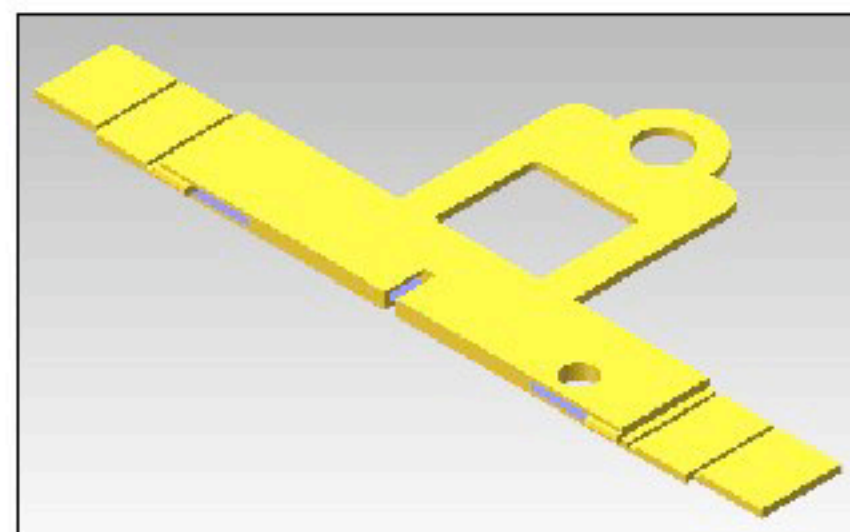
STAGES 18 19 20 21 below are applicable for moving brake hangers only (SUITABLE for P4 and S7 ONLY)



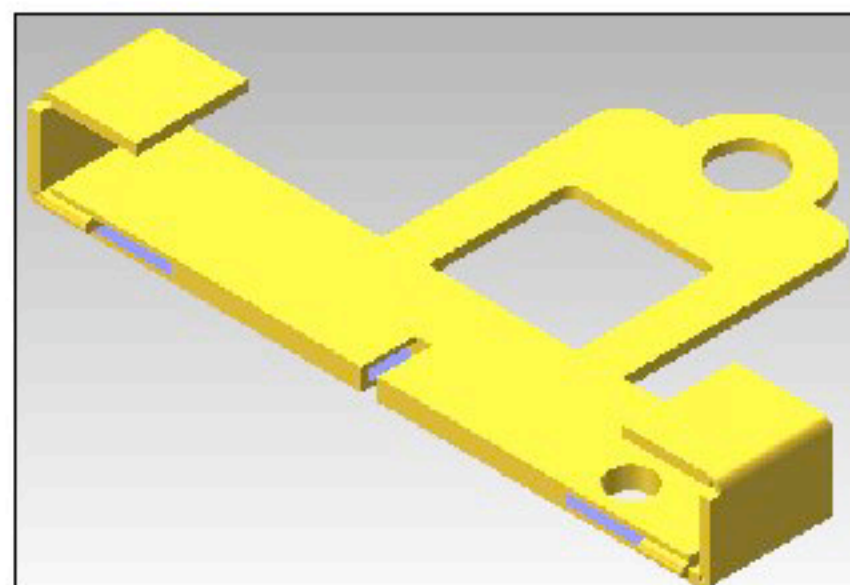
**STAGE 18.**  
Cradle as supplied.



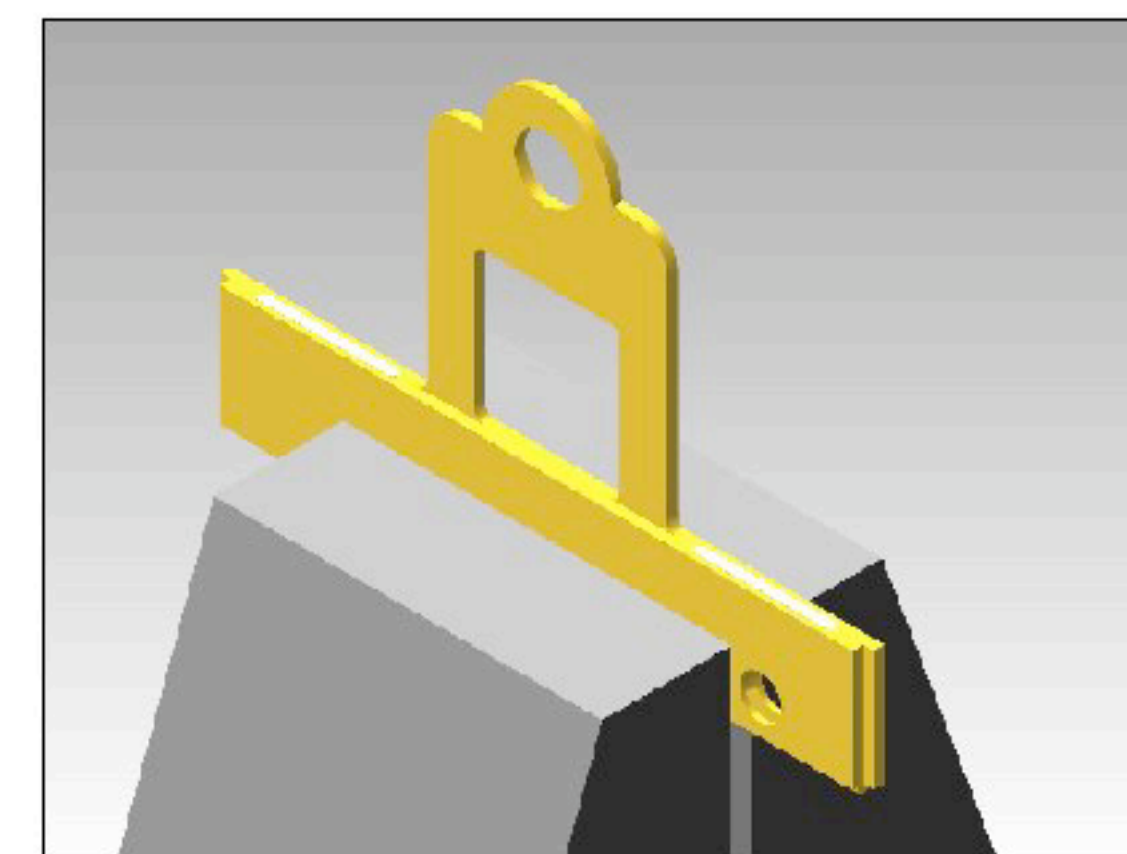
**STAGE 19.**  
**IMPORTANT:** the half etch areas for this fold are located at each of the spring pocket and on the outside of the fold.  
Fold to 90 degrees as shown. This is the first step in creating the spring pocket, shown in blue.



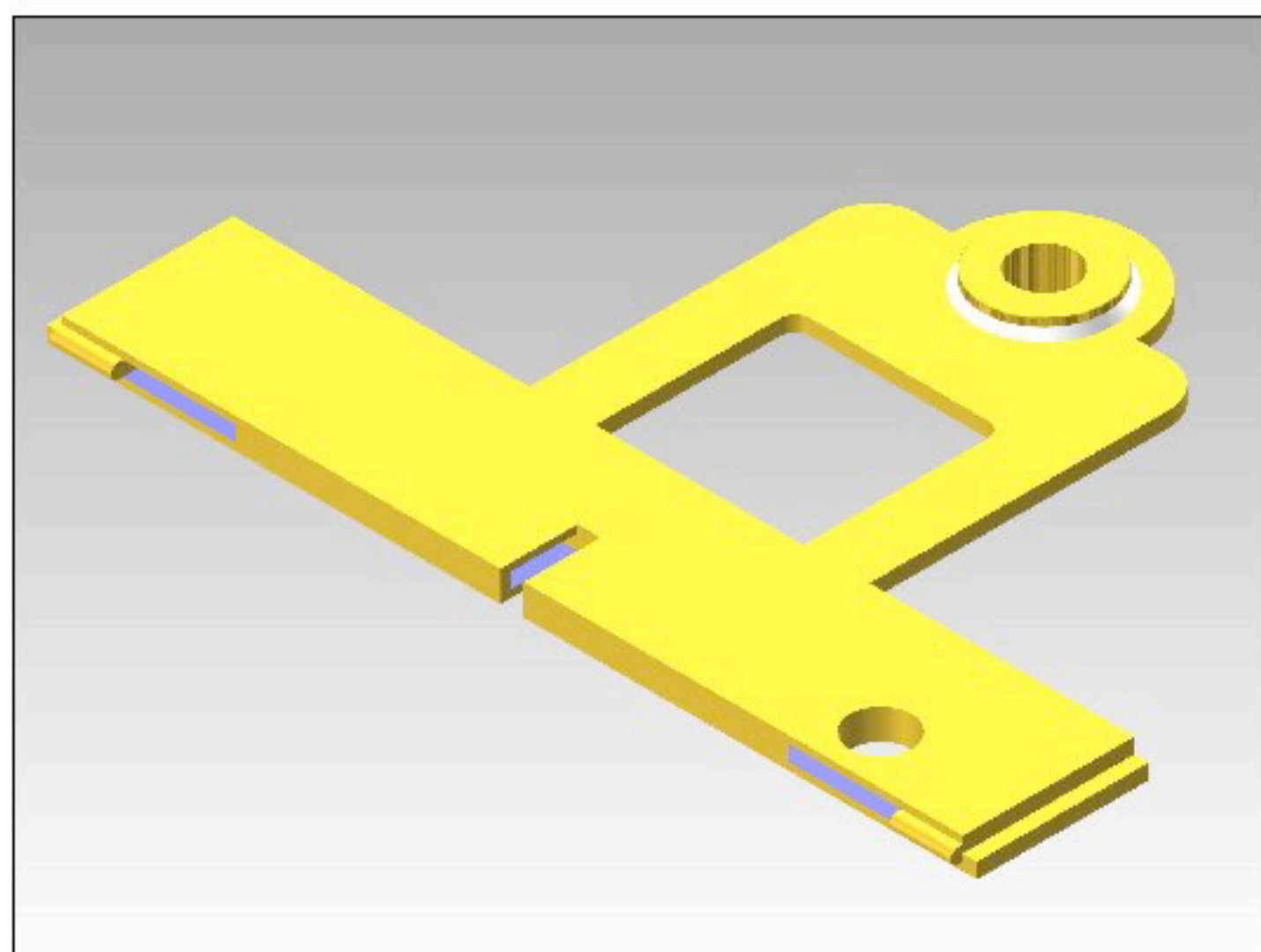
**STAGE 20.**  
Now fold through to 180 degrees: there will be a noticeable resistance but continue; the etch will make a cracking noise, then close as shown



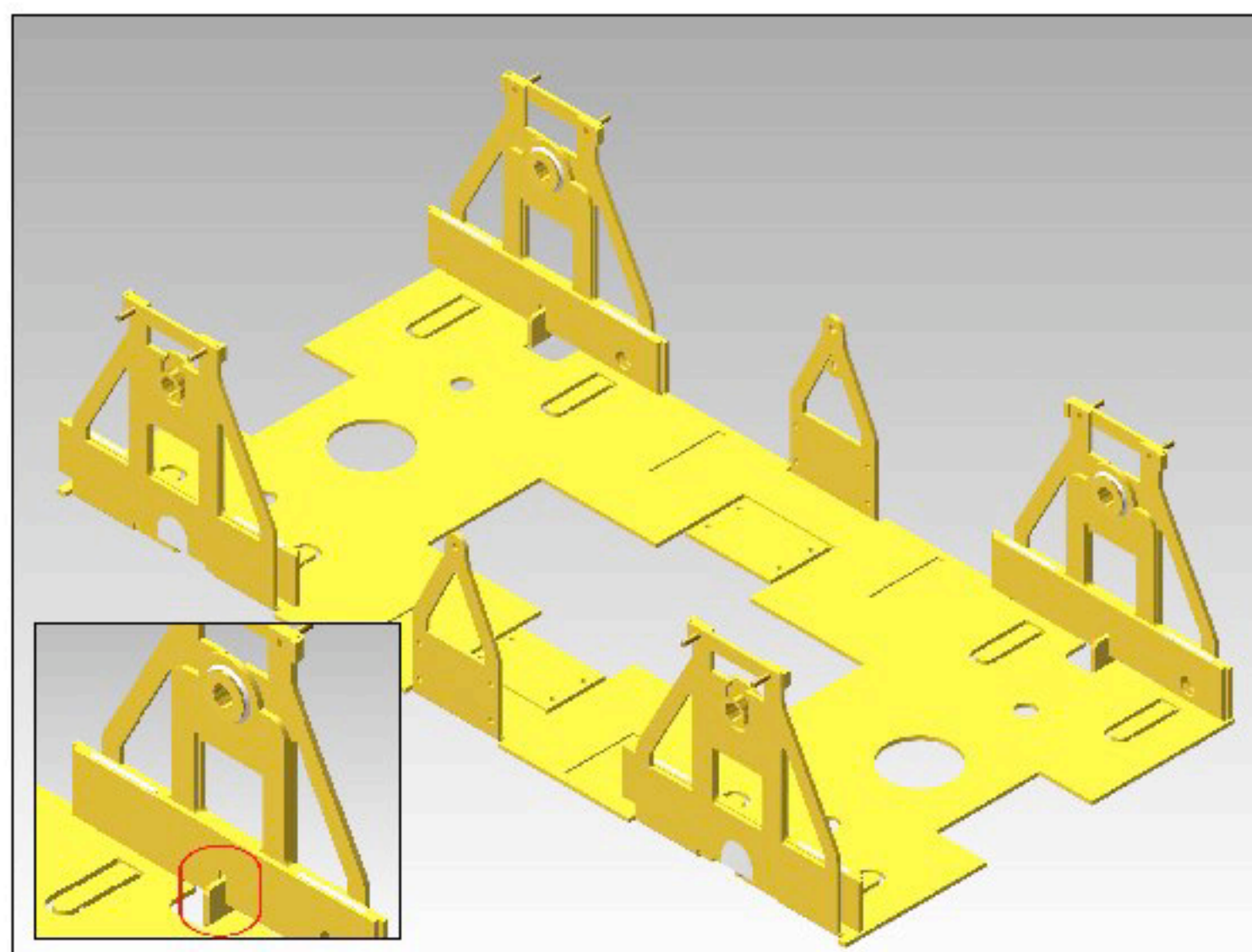
**STAGE 21.**  
Fold to 90 degrees the 4 remaining half etches as shown



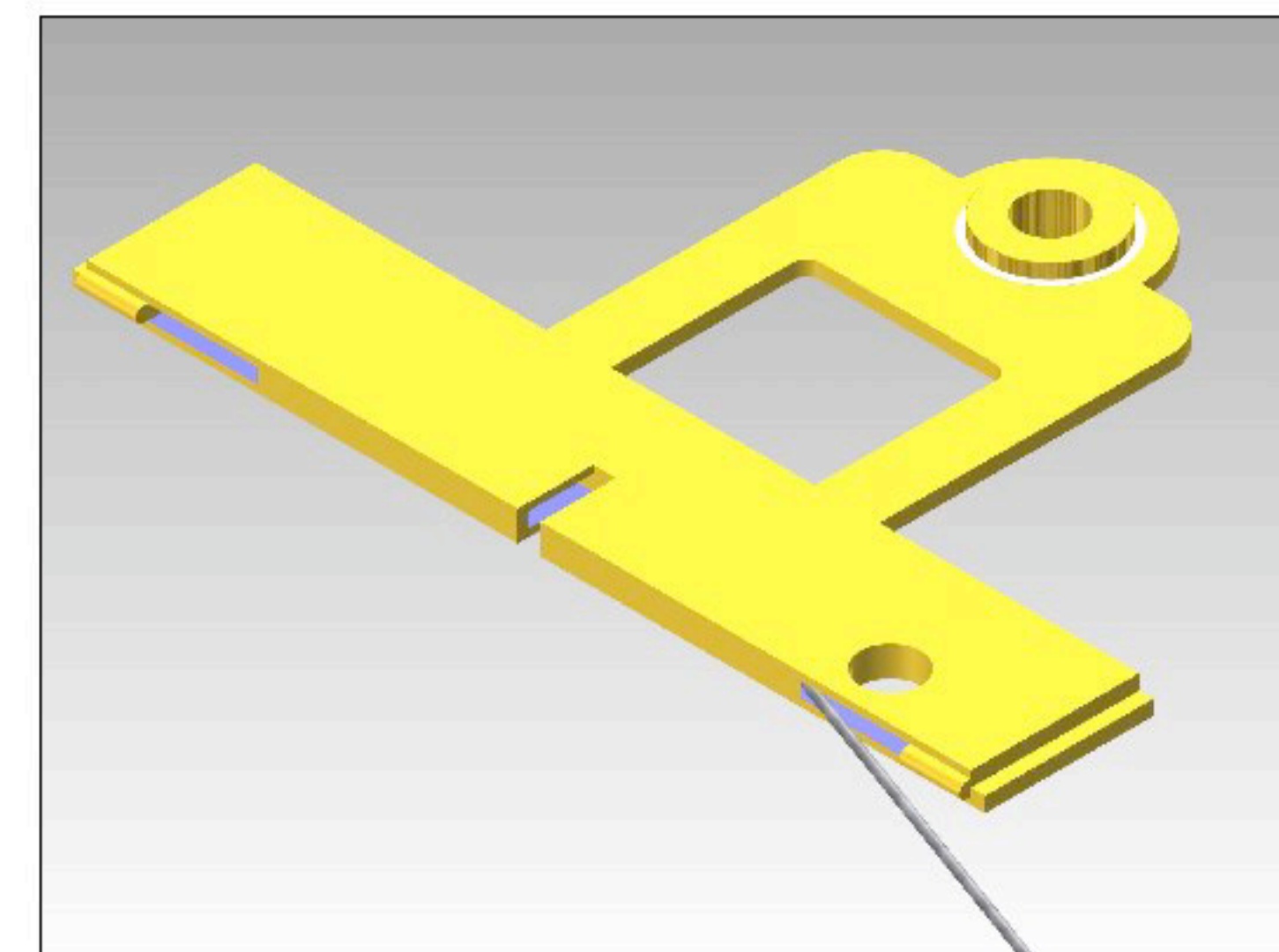
**STAGE 22.**  
Clamp the fold that makes the spring pocket using a small toolmakers clamp or similar as shown above. Apply a small amount of solder paste in positions shown in white. Heat with soldering iron to join. Care must be taken as no solder should enter the spring pocket.  
This is common for both moving and fixed brake hangers.



**STAGE 23.**  
Place bearing in position on cradle (as shown) ensuring the back face of the bearing is in contact with the cradle. Solder bearing to cradle (solder shown white): should any solder seep to the underside of the cradle this must be removed as this will not allow the system to work.  
Solder fillet shown in white.



**STAGE 24.**  
With the cradle lightly pressed up against the inside face of the axleguards, ensure that it is free to move up and down within the axleguard slot. If any resistance is felt, check for burrs or excess solder preventing movement.



**STAGE 25.**  
Cut 4 pieces of spring steel wire (supplied). For 4mm scale, 12.5mm long MAX; for 7mm scale, 21.5 long MAX. The MAX values are exact and must be adhered to for the system to work correctly. Slide spring into slot as shown. It must go all the way into the spring pocket.

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Part No **INS 1000 SHEET 4**

Part Name

Material

Date Drawn

Scale

Remove all sharp edges

All dimensions in MM unless otherwise stated

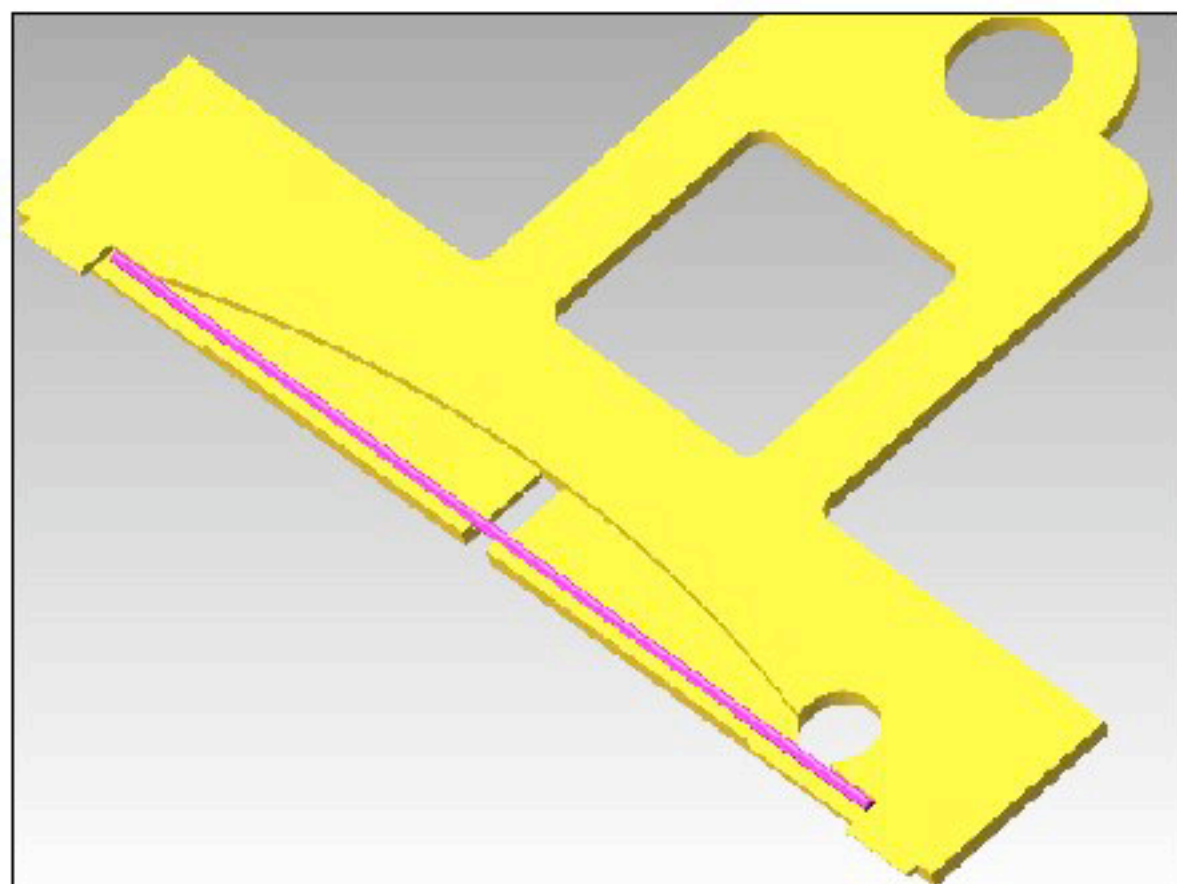
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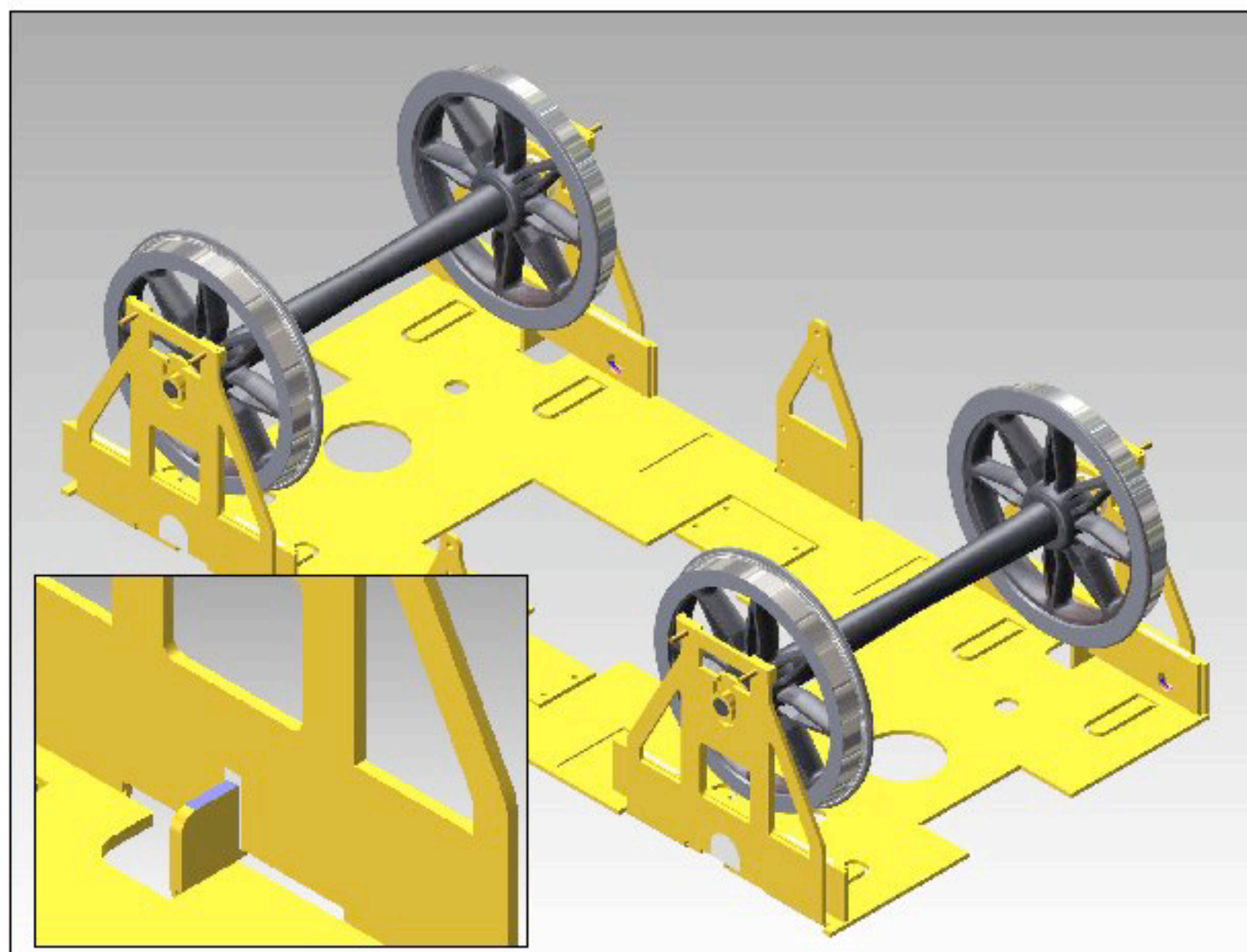
Instruction number

**INS 1000/4**

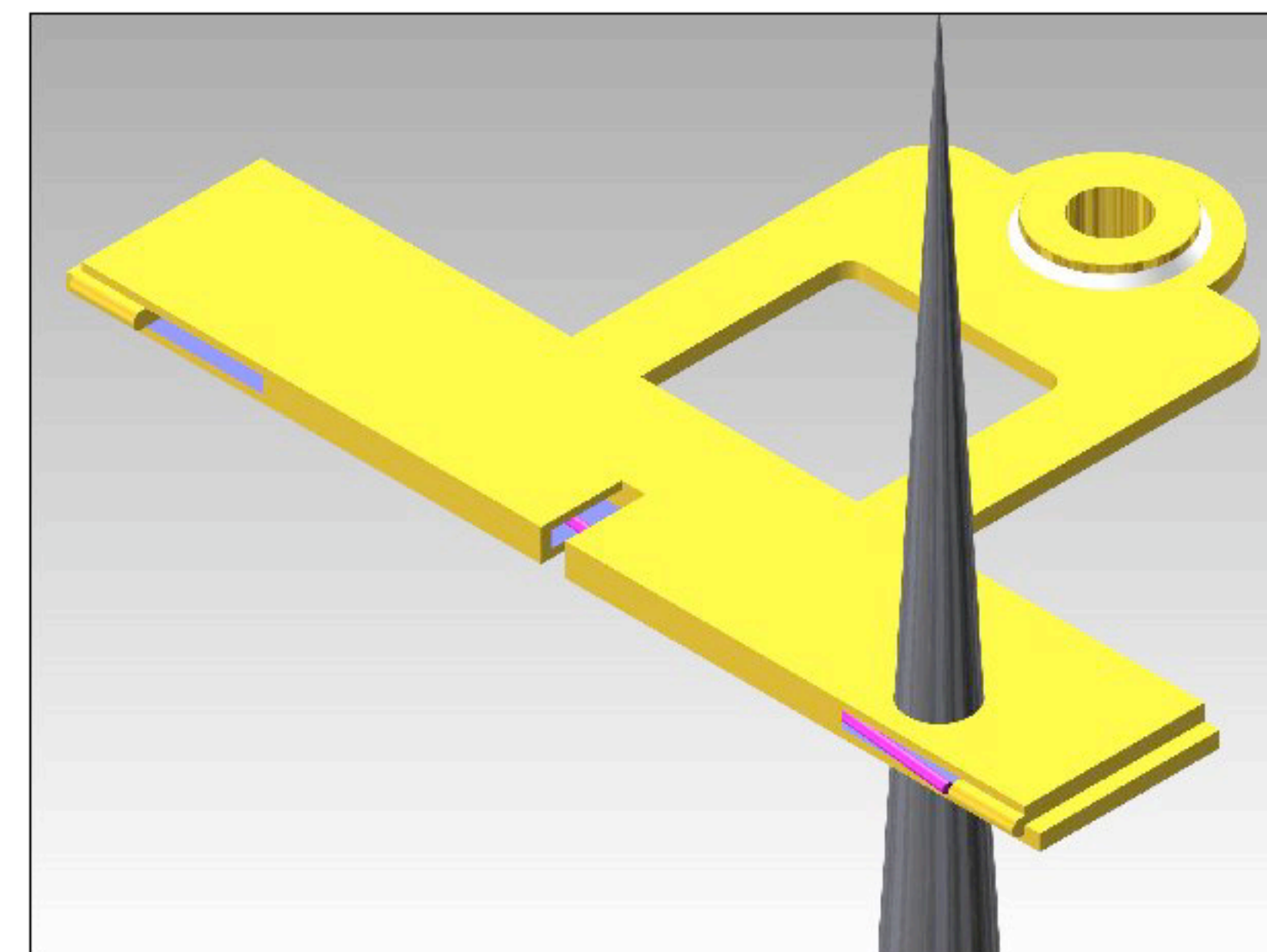
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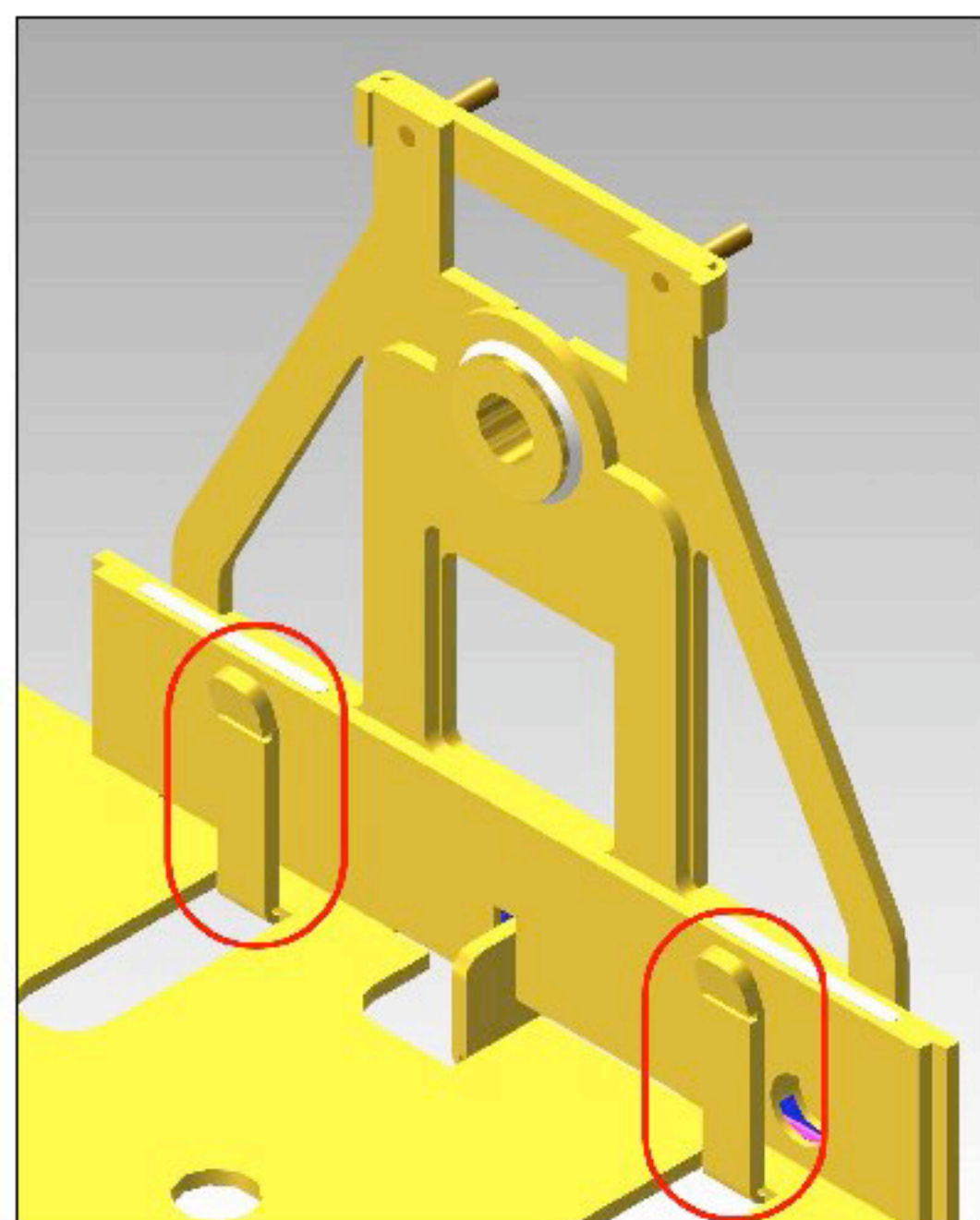
**STAGE 26.**  
Cut away view showing the spring inside the cradle in its relaxed state.



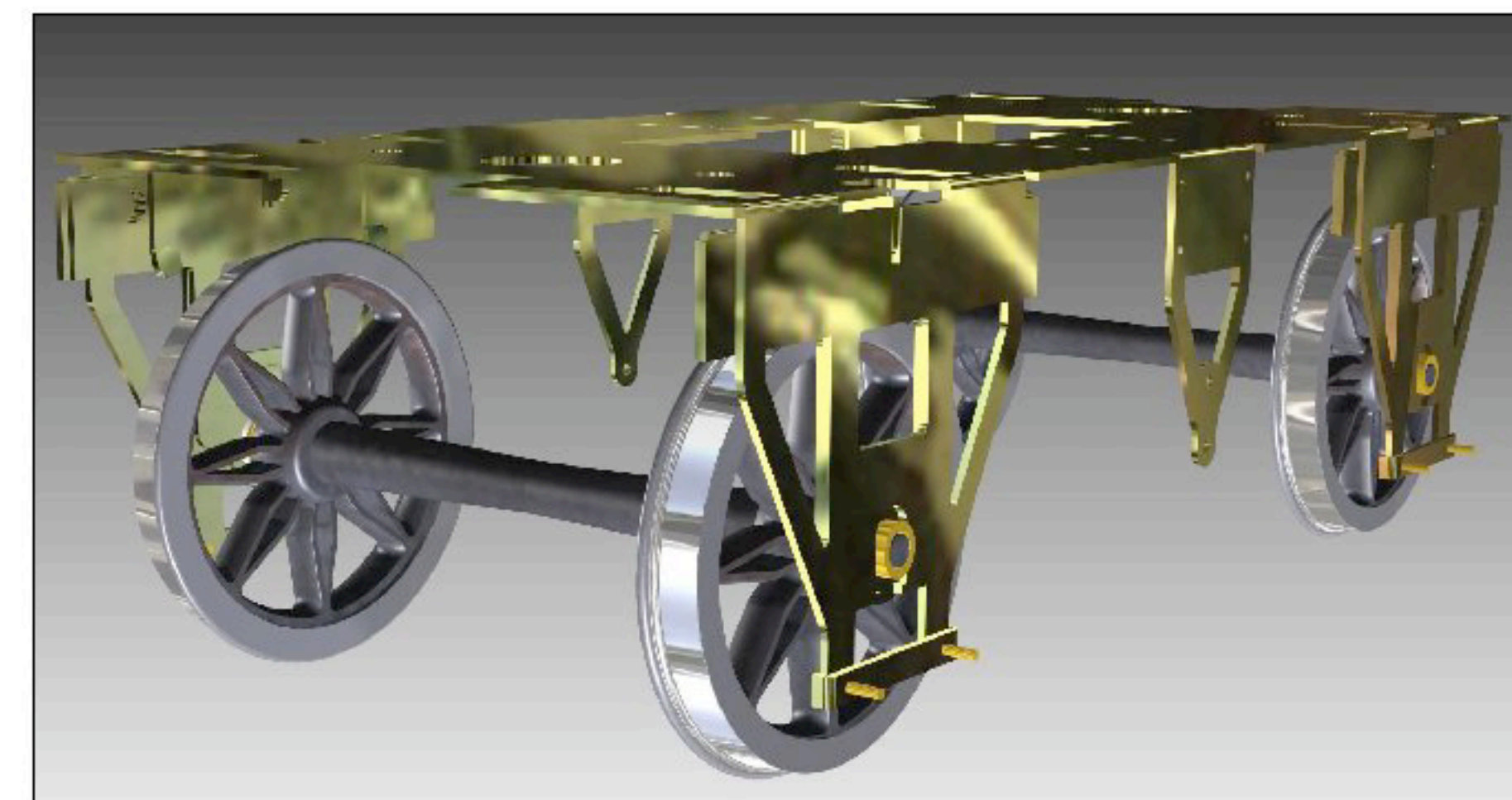
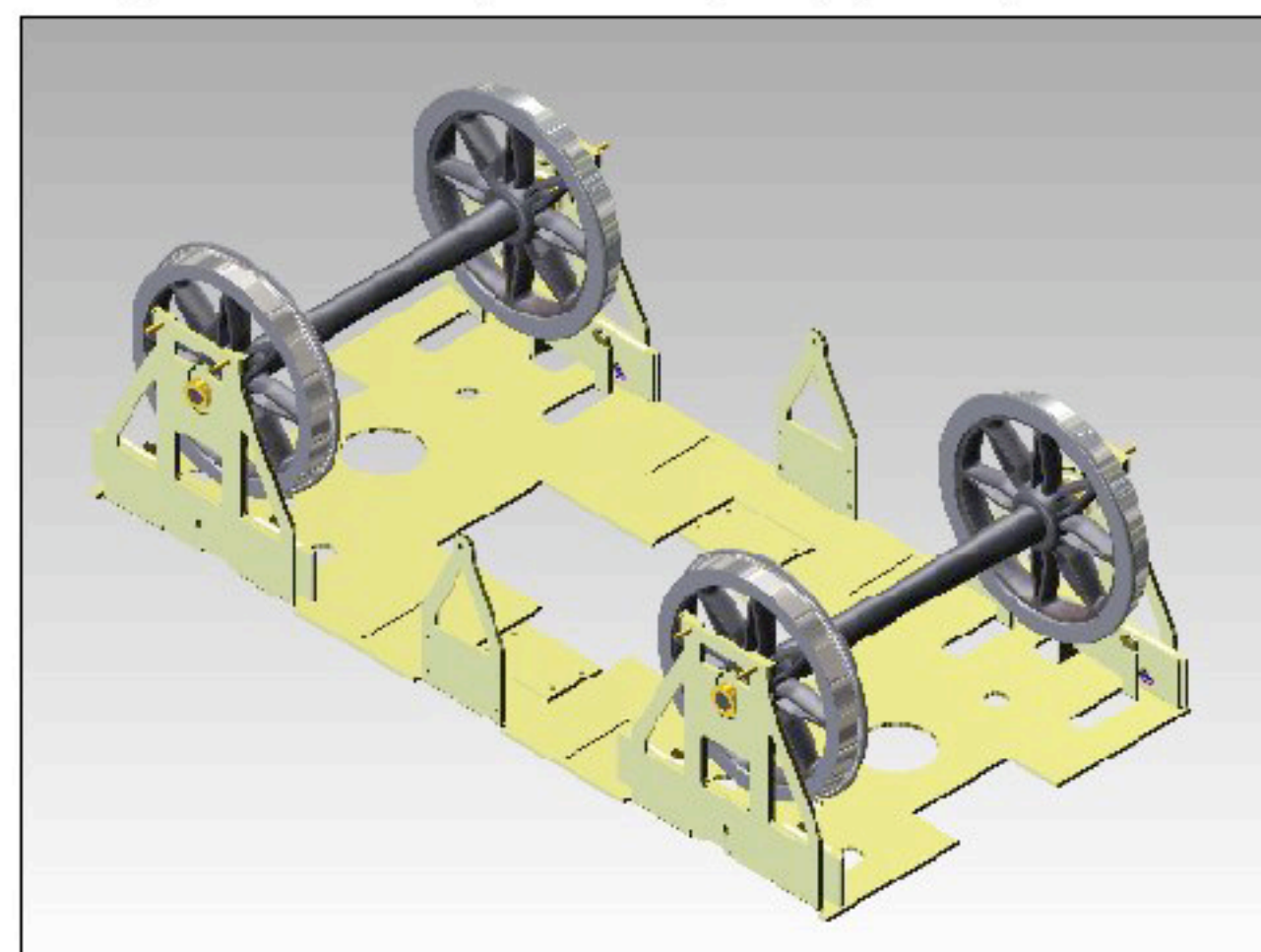
**STAGE 27.**  
Assemble cradles and fit wheel sets. Stand the unit on a section of track, then place the body onto the underframe. Check the springs give the movement you require i.e. springing equally up and down OR springing bottoms out with movement down only. If weight is going to be added to the vehicle it must be done at this stage. Strength of springs to achieve the desirable ride can be changed, see STAGE 28. Once completed, the buffer height can be lowered if required by filing down the top of the spring pads (shown in blue).



**STAGE 28.**  
Using a scribe as shown to expose the end of the spring, grip the spring with tweezers and pull out. Replace with an alternative strength spring as required. This may be necessary depending on the weight of the vehicle. Alternative spring weights are available from EXACTOSCALE.



**STAGE 29.**  
Finally fold the lateral cradle retaining tabs as shown. Check that the cradles are free to move up and down. If there is any tightness it may be necessary to ease the tabs away slightly from the cradles.



Two views of chassis up to stage 29, without brakes.

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Part No **INS 1000 SHEET 5**

Part Name

Material

Date Drawn

Scale

Remove all sharp edges

All dimensions in MM unless otherwise stated

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Instruction number

# INS 1000/5

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