

PART PROCESSING

1. Make part in minimal amount of hits.
2. Minimize the die size footprint.
3. Use minimal die lift required to transfer part.

DESIGN REVIEW PROCESS

All design reviews will be conducted via the internet (webex) or on site at Riviera Tool.

GENERAL DIE CONSTRUCTION

1. Use coil springs when die construction allows for it and travel doesn't exceed 2 inches.
2. Weld is acceptable. (Trim & Form)
3. Die stations will be spotted in critical areas only to achieve consistent parts that meet the agreed upon part specification.
Non-functioning finishing will not be done.
4. No extra or spare details included.
5. Die component selection is at the discretion of Riviera Tool.
6. All form and trim steels to conform to Riviera Material Matrix.

TOLERANCE STANDARD FOR HYBRID TOOLING

1. Mating surface tolerance is +/- 0.5mm
2. Non-mating surface tolerance is +/- 1.5mm
3. Trim line tolerance is +/- 1.5mm
4. Hole position tolerance for assembly and fasteners is +/- 0.5mm
5. Hole position tolerance for non-critical is +/- 1.5mm
6. Minimum hole size tolerance is +.2/-0mm
7. Riviera will meet 1.67 ppk capability

DIE SET CONSTRUCTION

1. Die sets to be HRS plate, G2500/NAAMS cast or equivalent.
2. Cast or sub-arc weld construction is acceptable.
3. Single wear plates to be used for heeling purposes.
(Mitsumi Heel Guide Plates.)
4. Die footprints will be built as small as possible (Length Width) and up to quoted shut height.
5. Castings construction: Outside wall = 1 ¼" thick. Inside wall = ¾" thick.
6. One-piece die set assembly on transfers (dependant on known capacity issues).
7. No mounting plates or idle stations included in transfer applications.
8. No wired die or part position sensors included.
9. One-piece stop block construction.
10. No more than 2 tooling holes per shoe.
11. No inserts for die locators (Cast Construction)

FORM STATIONS

1. Form inserts per Riviera's discretion.
2. Coatings not included.
3. All form dies will have either heels or guide pins, not both.
4. Form can be cast on the die set.

TRIM STATIONS

1. A-2 block or cast trim steels, depending on size. (No D-2.)
2. Trim steels to be up to 16 inches long to minimize details, with no weight restrictions on trim steels and punches.
3. Cast trim/pierce post on the die shoe. Insert where necessary.
4. Scrap lengths up to 24 inches are acceptable.
5. Scrap to exit die only. (Internal scrap chutes only)
6. No back-up keys behind punches or trim steels if stock is less than 1.5mm for cold-rolled material or less than .8mm for high strength material
7. Trim steels may be milled or wire-burned to finished size.
8. Trim steels may include pierce holes where necessary to reduce operations.
9. Pierce buttons to be mounted directly in post where applicable. (No inserts)
10. Flat buttons for round holes will be retained by single screw.

PAD CONSTRUCTION

1. Springs or self-contained (not plumbed) nitrogen cylinders on all pads except on draws.
2. Spools will be used on lower pads.
3. Stripper pads will not have windows.
4. Urethane strippers can be used where conceivable.
5. If pad locates on part shape – heel blocks will not be used.
6. Cast trim pads will be G2500/NAAMS or equivalent.
7. Non- working areas of trim pads and post will be cast clear to reduce machining and spotting.
8. Pads will not be designed to be removable in the press.
9. Spools from top or cast up keeper caps will be the primary means of retaining pads. Guided keeper pins will be used when lack of space make it necessary.
10. Nitrogen extensions will be cast on to pads. (12" max).
11. Guide pins and heels will be installed at Riviera discretion.
12. Cast form pads will be G3500/NAAMS or equivalent.

Revisions

Level	Revision	Date	Approvals	
			Element Owner	Senior Management
Rel	Released	10/15/2009	SOF	SOF