




PREMIUM INVESTMENT CASTING TOLERANCES
Obtainable Under Special Conditions
Recommended Drawing Notes

1. Material: Aluminum Alloy A-356-T6 per AMS 4218 **or** A357-T6 per AMS 4219
2. Mechanical properties in accordance with AMS-A21180
3. Radiographic inspection in accordance with AMS- 2175
4. Normal investment casting tolerances $\pm .010$ " up to 1", for each additional inch thereafter, $\pm .003$ " to a MAX variation of $\pm .050$ ".
 - a)  identifies datum points.
 - b) Dimensions to be taken from datum points A-1, A-2, A-3, B-1, B-2,C-1.
5. CAD file takes precedence over the drawing for inspection purposes.
 - IGES format or STEP format is acceptable
 - For rapid prototypes, STL format is acceptable
6. Surface finish to be $\sqrt{\text{Ra}}$ or better.
7. Unless otherwise specified:
 - a) Fillet radii to be: .060" MAX.
 - b) Corner radii to be: .035" MAX.
 - c) Angular tolerance: ± 30 mins.
 - d) Draft Angle: Optional 1 degree max.
 - e) Cast hole tolerance: $\pm .004$ up to .500" DIA., $\pm .007$ up to 1" DIA., and $\pm .007$ for each additional inch, max. $\pm .030$.
8. Machining stock .060 minimum, if required.
9. Typical wall thickness .060 $\pm .010$ minimum.
10. Weld repair permissible in accordance with AWS D17.1
11. Parting line mismatch, burrs, and flash shall not exceed .005. Gate witness shall not exceed .010.
12. Casting identification per MIL STD 130M
Cast markings to be either depressed letters or raised letters on depressed pad
Foundry logo allowable in determined location