

# PROCESS SPECIFICATION

## DELPHI SAGINAW STEERING SYSTEMS

TITLE Tool Material Heat Treatment NUMBER E-2637  
ISSUED BY C. R. Martin DATE 4/30/96 APPROVED BY \_\_\_\_\_  
REVISION C REV. DATE 08JL2003 SHEET 1 OF 1

- A. Material to be heat treated: **01**
- B. Heat treat as specified:
1. Preheat slowly at 1000 to 1200°F. (preheat step is optional).
  2. High heat at 1425 to 1500°F.
  3. Oil quench. Optional: quench in salt at 300 to 350°F.
  4. Double temper immediately at 350 to 1100°F.
- C. Stress relieve, if specified, after final machining at a temperature which is 50 to 100 degrees lower than the tempering temperature used. The stress relieving temperature should not, in any way, affect the hardness of the material.
- D. Using heat treatment shown above will give a hardness range of 35 to 62 Rockwell C. Required hardness will be noted on print. Heat treat accordingly.
- E. No carburization or decarburization allowed.
- F. Tooling must have holes cleaned of all salt.
- G. Heat treatment certification, when requested, shall include:
1. Heat treat shop number
  2. P.O. number accompanying job
  3. Type of material heat treated
  4. Size and quantity of tooling batch heat treated
  5. Resulting hardness
  6. Xerox copy of material tracking chart containing furnace times and temperatures.
  7. Date when hardness tester last calibrated.
- H. Heat treatment per this specification is to be carried out only by approved sources as listed in specification E-2600.

Revision	Revision Description	By	Date
A	Distribution list updated.	CRM	5/16/96
B	Distribution list revised. Format updated.	DN	1/24/01
C	Distribution note removed. Approved source note added.	DN	08JL2003

[http://www.delphisuppliers.com/vendor\\_documents/delphi-s/index.html](http://www.delphisuppliers.com/vendor_documents/delphi-s/index.html)

Note: The above specifications were developed without considering whether patents may or may not be involved.  
In all cases, therefore, the supplier shall be required to assume patent liability.