

# PROCESS SPECIFICATION

## DELPHI SAGINAW STEERING SYSTEMS

TITLE Tool Material Heat Treatment NUMBER E-2644  
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: **M2**
- B. Heat treat as specified, **for maximum toughness**:
1. Preheat to 1550°F. in neutral salt.
  2. High heat at 2030 to 2060°F. in neutral salt.
  3. Salt quench at 1000 to 1050°F.
  4. Air cool to 150°F or below.
  5. Triple temper immediately, 3 hours minimum at 1020 to 1060°F. for each temper.
- C. Surface hardness shall be HRC 60 - 62.
- D. No carburization or decarburization allowed.
- E. Tooling must have holes cleaned of all salt.
- F. Stress relieve after final machining at 900°F. if specified.
- 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.