

All Items are subject to inspection according to the following Suspect/Counterfeit Items (S/CI) Indications List. Any S/CI identified will be reported to the DOE Inspector General.

Goods furnished under this purchase order may be used in a U.S. Government-owned facility.

Fasteners shall exhibit grade marks and manufacturer's identification symbol (headmark) as required in the Material Specification. Any fasteners supplied with the headmarks displayed on the suspect fastener headmark lists **will not** be accepted.

When Certified Material Test Reports (CMTR's) are required, they shall be provided by the manufacturer of the item and shall report the values of actual chemical and physical tests performed on the represented item lot/material heat.

PIPING AND PIPING COMPONENTS (INCLUDING MECHANICAL AND METAL PRODUCTS)

A. General Indications

- Used component appearance
- Unusual or inadequate packaging
- Foreign newspapers used as packaging
- Scratches on component outer surface
- Evidence of tampering
- Components with no markings
- Pitting or corrosion
- External weld or heat indications
- Questionable or meaningless numbers
- Typed labels
- Evidence of hand-made parts
- Painted stainless steel
- Ferrous metals that are clean and bright
- Excess wire brushing or painting
- Ground off casting marks with stamped marks in the vicinity
- Ground off logo mark
- Signs of weld repairs
- Threads showing evidence of wear or dressing
- Inconsistency between labels
- Old or worn nameplates
- Nameplates that look newer than the component
- Missing manufacturer's standard markings and logos
- Overlapping stamps
- Different colors of the same part
- Traces of Prussian Blue
- No specification number
- No size designation
- Missing pressure class rating
- Other missing designations per the specification
- Evidence of re-stamping
- Deficient welds on chemical/nuclear shipping casks
- Thinner than expected
- Parts identified as "China" only, or "Korea," "Mexico," "Thailand," "India"
- Excess certification logos (i.e. "UL," "FM," "CGA," "AGA") all on one valve body – not normal, usually will have one or two logos plus ANSI or ASME

B. General Valve Indications:

- Wrench marks on valve packing glands, nuts, and bolts
- Nameplates attached with screws rather than rivets
- Poor fit between assembled valve parts
- Dirty internals
- Scratched or marred fasteners or packing glands
- Gate valve: gate off-center when viewed through open end
- Fresh sand-blasted appearance of valve bodies, eyebolts, fittings, stems
- Loose or missing fasteners
- Different types of hand wheels on valves of the same manufacturer
- Some parts (e.g., hand wheels) look newer than rest of the valve
- Improper materials (e.g., bronze nut on a stainless stem)
- Post-manufacturing alteration to identification/rating markings
- Indication of previous joint welding
- Excessive standards markings (e.g. UL, FM, CGA, AGA) (may need to check with manufacturer literature for what standards they use)
- Valves will not open or close, even when wrench applied.
- Substandard valves mixed in with standard valves (substitution)

C. Specific Valve Indications:

Valves produced by the following manufacturers generally have the following features and are considered suspect if they are missing these features.

Crane Valves:

- Body cast or forged markings:
- Crane name
- Pressure rating
- Pattern number
- Nameplate Information:
 - Made from stainless steel (silver color) with black lettering
 - Attached by drive screws OR attached on valve stem underneath handle. Valve size pressure class, operating pressure at temperature
 - Body material
- Seat material on valve body and valve seat
- Stem trim material and heat treat conditions
- Certification data – military specification, if applicable
- Drawing number Shop Order Number (SO#)
- Body cast or forged markings including the name “Crane”
- Valve class
- Valve size
- Grade of steel
- Melt number

Powell Valves (Wm. Powell Co.):

- Body cast or forged markings including the name “Powell”
- Valve class
- Valve size
- Grade of steel
- Melt number
- Nameplate Information:
 - Riveted to valve body OR attached to valve stem underneath handle
 - Attached with single end welded wire (small valves)
 - Serial number
 - Valve size

- Figure number
- Body style
- Valve stem, disc, and seat type
- Strength at temperature
- Strength at 100°F
- The Wm. Powell Co. Cin., Oh. Made in U. S. A.

Vogt, Henry Machine Co., Inc.:

- Body cast or forged markings:
 - The name “Vogt”
 - Pressure rating
 - Pattern number
 - Size
 - Material specification
 - Two-code ID – a 3-letter code and a 4-digit code
- Nameplate Information
 - Made from aluminum with electrochemical etched lettering
 - Attached on valve stem underneath handle
 - Valve size
 - Pressure class, operating pressure at temperature
 - Body material
 - Internal seat material or internal H.F.
 - Stem trim material
 - Specification number Drawing Number
 - Pressure rating

Walworth Valves:

- Body Cast or forged markings
 - The name “Walworth”
 - Pressure class
 - Size
 - Heat code
 - Serial number (stamped)
- Nameplate information
 - Made from aluminum
 - Attached by drive screws
 - Attached to cover at times
 - Valve size
 - Pressure class and operating pressure at temperature
 - Body material
 - Internal seat material or H.F.
 - Stem trim material and heat treat conditions
 - Figure number
 - Serial number
 - Location of Manufacture
 - Item code number

Masoneilian—Dresser Valves:

- Masoneilian or Worthington Controls stamped on nameplate
- MD or Masoneilian on valve body

ELECTRICAL COMPONENTS**A. General Indications:**

- Screwdriver marks on terminals
- Different screw types or materials on terminals
- Handwritten or typed rather than stamped tags

- Missing tags (usually UL approval tag)
- Pitted or worn contacts and lugs
- Not in manufacturer's box or container
- Signs of paint or smoke
- Insufficient nameplate information
- Missing terminals
- Screws used in place of rivets
- Body worn or discolored
- Rough metal edges
- Scratched or marred surfaces
- Metal color inconsistencies
- Modified or re-stamped nameplates
- Improper fastening of nameplates
- Plastic parts of different colors
- Discolored or faded manufacturer's labels
- Past due calibration stickers (internal and external)
- Broken or damaged solder terminations
- Broken or damaged termination lugs
- Contact surfaces that do not mate properly
- Lubrication that appears to be old
- Shipping in plain packaging (no manufacturer bar code)
- Used or damaged parts in new packaging

B. Specific Indications: Molded Case Circuit Breakers:

- Handle modified to change ampere rating
- Style is no longer manufactured
- Unusual packaging: bulk packaging, generic packages, and cheap appearance
- Refurbisher's name on breaker
- Broken seal between halves
- Contradicting amperage ratings

Fuses:

- Label missing or weathered
- Wear marks on bases
- Power (Draw out) Circuit Breakers:
- Different color or shape of over current devices
- Suspicious- looking auxiliary trip devices

Motor Starters:

- Poor fitting or wrong voltage rated operating coil
- Motor Control Centers:
- Breakers that are not easily opened or closed with compartment door closed
- Exposed buss work with compartment doors open

Electromechanical Relays:

- Poor or loose-fitting relays

Potter-Brumfield Relay:

- Sloppy coil lead solder joints
- Painted relay base grommets (normally clean)
- Terminal strips fastened with eyelets
- Painted rivets fastening the terminal strip to the relay housing
- Termination screws in brown paper bags (should be in clear, heat-sealed plastic bags)
- Use of bubble wrap (plastic with Styrofoam should be used)

- Repainted inner bell surface
- Missing or inconsistent date codes, inspection stamp, and test stamp
- Incorrect shaft relay cover clearance, shaft play, and lack of bearing lubricant
- Tops of rotor shafts painted a color other than black
- Non-uniform numbers stamped on the contact decks, indicating decks made up from various relays
- Incorrect coil (i.e., 125 VDC relay with 200 VDC coil)

Capacitors:

- Polished surfaces scratched or dented
- Termination lugs scarred
- Buildup of debris and dirt in termination guards
- Plain packaging (no manufacturer bar codes)

FASTENERS**A. General Indications:**

- No manufacturer's or grade mark (unless certified to a specification not requiring marking)
- Evidence of machining marks
- Poor thread form, evidence of wear, or dressing
- Headmarks shown on the Suspect Fastener Headmark List
- Foreign manufacturer not meeting Public Law 101-592
- No markings for nuts or washers packaged with labels indicating that they were manufactured to a code or MIL-SPEC which requires marking
- Headmarkings are marred, missing, or appear to have been altered
- Headmarkings are inconsistent with a hear/lot
- Double stamping
- Metric and SAE stamping
- Headmarks with raised marks and depressed marks on same bolt (not normal manufacturing process)

DOCUMENTATION AND CERTIFICATION:**A. General Indications:**

- Use of correction fluid or correction tape
- Type style or pitch change is evident
- Documentation has missing (or illegible) signature, initial, or data
- Document is excessively faded or unclear
- Inconsistent technical data
- Certification or test results are identical between items when normal variations should be expected
- Document is not traceable to the items procured
- Technical data are inconsistent with code or standard requirements
- Documentation is not delivered as required on the purchase order, or in an unusual format
- Lines on forms are bent, broken, or interrupted indicating that data have been deleted or exchanged by "cut and paste"
- Handwritten entries are on the same document where typed or pre-printed data exist
- Data on a single line are located at different heights
- Product recall
- Chemical alloy composition totals 100% (or >99.75%) as shown on Certified Material Test Report (CMTR)
- Heat and lot numbers are same for different materials in same order (i.e. 6010 and 7018 weld wire cannot be manufactured from same heat and lot of material.)

V. STAINLESS STEEL WIRE ROPE:**A. General Indications:**













- No or incomplete documentation
- Noticeable alteration of documentation (refer to Documentation and Certification section)

VI. LIFTING MATERIALS

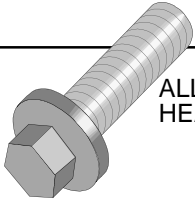
A. General Indications:

- Original markings ground off and re-stamped
- Altered markings on identification tags
- Used appearance of items (i.e. straps appear worn, or hook have indications of previous use)
- Parts identified as “China” only, or “Korea,” “Mexico,” “Thailand,” “India”
- No or incomplete documentation (refer to Documentation and Certification Section)
- Red hooks not labeled with Crosby Group markings (“Crosby” or “CG”) Crosby has the Crosby Red Carbon Steel Hook U.S.A. Trademark, Registration #2,108,103.

ANSI B18.2.1 Appendix III ASTM & SAE Grade Marking for Steel - Bolts and Screws

Grade Marking	Specification	Material
 No Mark	SAE – Grade 1 ASTM – A307 SAE – Grade 2	Low or medium carbon steel Low carbon steel Low or medium carbon steel
	SAE – Grade 5 ASTM – A449	Medium carbon steel, Quenched and tempered
	SAE – Grade 5.2	Low carbon martensite steel, Quenched and tempered
	ASTM – A325 Type 1	Medium carbon steel, Quenched and tempered Radial dashes optional
	ASTM – A325 Type 2	Low carbon martensite steel, Quenched and tempered
	ASTM – A325 Type 3	Atmospheric Corrosion (weathering) steel, Quenched and tempered
	ASTM – A354 Grade BC	Alloy Steel, Quenched and tempered
	SAE – Grade 7	Medium carbon steel, Quenched and tempered Roll threaded after heat treatment
	SAE – Grade 8 ASTM – A354 Grade BD	Medium carbon steel, Quenched and tempered Alloy Steel, Quenched and tempered
	SAE – Grade 8.2	Low carbon martensite steel, Quenched and tempered
	ASTM – A490 Type 1	Alloy Steel, Quenched and tempered
	ASTM A490 Type 3	Atmospheric Corrosion (weathering) steel, Quenched and tempered

**SUSPECT/COUNTERFEIT PART HEADMARK LIST:
A Resource Aid for Identifying Legacy Fasteners**



ALL GRADE 5 AND GRADE 8 FASTENERS WHICH DO NOT BEAR ANY MANUFACTURERS' HEADMARKS



Grade 5



Grade 8

GRADE 5 FASTENERS WITH THE FOLLOWING MANUFACTURERS' HEADMARKS:



MARK
J



MARK
KS

GRADE 8 FASTENERS WITH THE FOLLOWING MANUFACTURERS' HEADMARKS:



MARK
A



MARK
KS



NF



RT



H



FM



M



KY



MS



J



Hollow
Triangle

(CA TW JP YU) (Greater than 1/2 inch dia)



E



UNY

GRADE 8.2 FASTENERS WITH THE FOLLOWING HEADMARKS:



MARK
KS

GRADE A325 FASTENERS WITH THE FOLLOWING HEADMARKS:



A325 KS



Headmarkings are usually raised – sometimes indented.

KEY: CA-Canada, JP-Japan, TW-Taiwan, YU-Yugoslavia

Reference: This tool was derived from the U.S. Customs Service.

Dated: 1992

SUSPECT STAINLESS STEEL FASTENER HEADMARK LIST

Examples of stainless steel fasteners that have been upgraded from 18-8 to ASTM A320 or ASTM A193 Grade B8 after hand stamping. The last three examples show samples of fasteners to indicate conformance to two non-compatible standards, ASTM A193 and ASTM F593C.

Any bolt on this list should be treated as defective without further testing and process in accordance with HNF-PR0-301. Note: This list was originally Published by DOE/EH-0196, Issue No. 97-8

If any of these fasteners are located contact your facility S/CI Point of Contact (POC) for instructions.

	Surrounding White Color Illustrates Head Markings Before Hand Stamping		
	Surrounding Black Color Illustrates Head Markings After Hand Stamping		
SUSPECT			