July 2014

Indiana Gear Works Correspondence

Donald E. Mahr

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March 10, 1965

Morgan Construction Company
15 Belmont Street
Worcester, Massachusetts

Attention: Mr. Thomas E. Whittington, Jr.

Reference: P. O. H-10395
Your Letter 2-12-65

Gentlemen:

Our original quotations SD 4-1401-1 and SD 4-1401-2 were based upon layout drawings as noted in our letters. We would like to reconfirm our quoted prices with the exceptions as noted on Attachment #1, which reflect a net increase of $1569.47 per set and additional tools of $3,000.00.

We have also enclosed a detailed listing (Attachment #2) by part number and quantity for your confirmation. Prices are based upon no revision drawings and less details C through M.

Parts will be packaged for overseas shipment as previously instructed.

Delivery can be July, 1965.

Our terms are net 30 days, f.o.b. Indianapolis, Indiana.

Very truly yours,

INDIANA GEAR WORKS
A Division of
THE BUEHLER CORPORATION

Donald E. Mehr
Contracts Administrator Supervisor

DEMIE
Att.
Increases

1. F4 (16 RMS) required on bearing diameters and shoulders, proof diameters and faces, ring gear bores and faces - ring gears - $11.67 per gear - shaft gears $23.33 per shaft X 16 pcs. = $280.00/set
   Normal finish would be 32 RMS

2. Added (2) washer slots and (1) keyway to shaft gears - $36.20 per gear
   X 8 pcs. = 289.60/set
   (does not include finish requirement for keyway - see item #3)

3. F2 (63RMS) required in keyway slot on shaft gears - $17.50 per shaft
   X 8 pcs. = 140.00/set
   Normal finish would be 125 RMS.

4. F3 (32RMS) on web face and note: "This surface to run square with reference axis within .001 at 4" radius point," on shaft gears - $21.82 per gear X 8 pcs. = 174.56/set

5. Balancing required on all gears - $29.17 per gear X 16 pcs. = 466.72/set
   Tooling - $3,000.

6. Increase in material cost due to change in gear sizes? $290.03/set

7. Our original estimates from your layout drawings were based upon using existing 12" gear cutters; however, gear summaries dictate that 18" cutters will be required and a full complement would cost approximately $12,000.00. By purchasing a minimum number of heads and shimming blades, we are able to reduce this cost by approximately one-third. There will be a charge of $150.00 per set to cover the cost of shimming.

   Total $1790.91
   Net Increase $1569.47
ATTACHMENT #1

Exceptions to drawings and clarifications required

1. Please clarify Note 2B - "a record of tooth contact will be made for assembly purposes".

2. We take exception to requirement of .0004 tooth to tooth spacing variation and RMS required. Reference letter to Mr. Ed Randall from Mr. Al Mendez dated 3-2-65.

3. Machining centers will be allowed on both ends of shafts.

4. What is tolerance for location of tapped holes in ring gears. ±.005"

5. What are unspecified fillet radii and edge breaks. ±.03/1.06

6. Part number 164576 - bore diameter omitted. - ORIG. FIXED

7. Core hardness will be RC 32-36.

8. We will be unable to maintain maximum of .0005 white layer without grinding gear teeth. White layer will be as originally quoted - maximum of .0008.

9. Refer Note 1C - stress relieve @ 1060° F should be 975° - 1000° F.

10. Tapped thread in end of all shaft gears to hold when cutting gear thread (sketch attached).

11. Please advise if source inspection by Morgan Construction Company will be required prior to packaging for overseas shipment.

Changes from layout drawings R819 dated 10-22-64 and R820 and R821 dated 10-23-64. Revised 10-30-64.

Decreases

1. Removed (1) washer slot from shaft gears - $13.22 per gear X 8 pcs. = $105.76/set

2. Removed (1) undercut from shaft gears - $3.85 per gear X 8 pcs. = 30.80/set

3. Removed (1) thread from shaft gears - $10.61 per gear X 8 pcs. = 84.88/set

Total $221.44/set
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