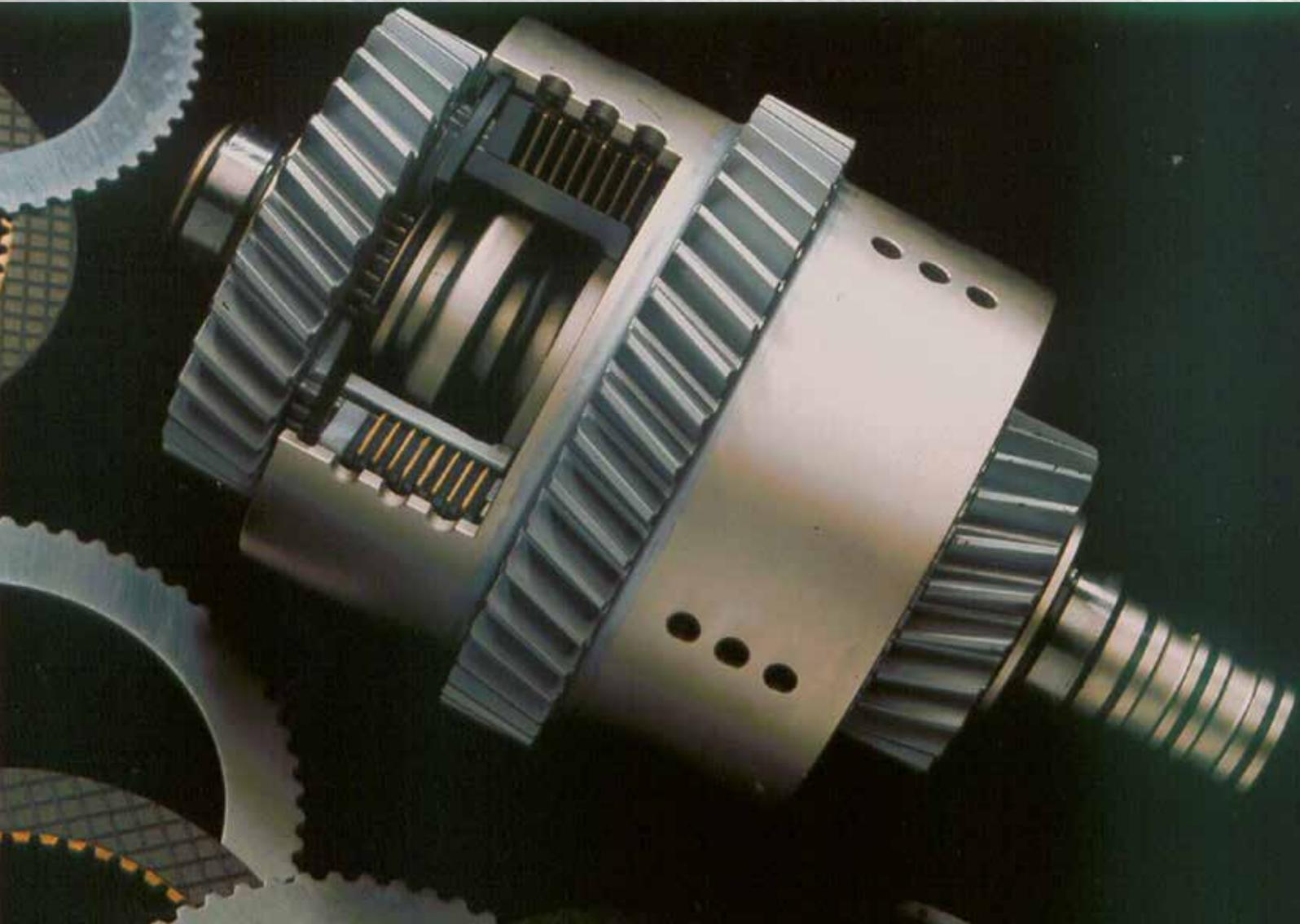




GRAZIANO™

Shifting Solutions

| Powershift Units



Shifting Solutions Powershift Units

Clutch Housings

All most used technologies available to produce clutch housing: Flow Forming, Grob Rolling, Broaching plus Laser or EB Welding

Currently available broached splines on Dana Graziano production:

Pitch Diameter [mm]	95,00	137,16	144,78	150,00	152,40
Module	2,5	2,54	2,54	3,00	2,54
Number of teeth theoretical	38	54	57	50	60
Pitch Diameter [mm]	159,00	165,00	172,80	175,26	174,00
Module	3,00	2,50	2,40	2,54	3,00
Number of teeth theoretical	53	66	72	69	58

Powershift Units

We are able to design, develop and test complete Powershift units. Supplying the complete powershift unit gives great advantages to the customer:

- Geometries and functionality of every clutch are controlled 100% before delivery on a final hydraulic test bench; the customer receives a product which is ready to be assembled on its machines
- Only one p/n to handle instead of several components
- Less space required in the Customer's warehouse



EBW: Electron Beam Welding

EBW is a simple concept to join, melt and harden a variety of metals with technical and cost advantages. It is based on beam coming out from a fix gun that provides a precisely and controlled heat source with exceptional power density, flexibility and dimensionally repeatable with low distortions. The components to be welded have to be demagnetized and then loaded on a rotating spindle in vacuum chamber with specially designed tooling; with easy modifications obtained by electronic or optic change the beam can be adjusted to reach particular characteristics of positioning, texturing and hardening.



Advantages of EBW:

- Material is cleaner
- Largest depth of welding (up to 15mm)
- Material is less distorted
- Cycle time reduction
- Reliability & repeatability of the process
- Extremely competitive



Dana.com/OH

Application Policy

Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from Dana; contact your representative for application approval. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.



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