



US00D829792S

(12) **United States Design Patent**
Matsutou et al.

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(45) **Date of Patent:** **** Oct. 2, 2018**

(54) **ELECTRICALLY OPERATED ACTUATOR**

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(73) Assignee: **NTN CORPORATION**, Osaka (JP)

(**) Term: **15 Years**

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(30) **Foreign Application Priority Data**

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Feb. 17, 2016 (JP) 2016-003350

(Continued)

(51) **LOC (11) Cl.** **15-99**

(52) **U.S. Cl.**
USPC **D15/148**

(58) **Field of Classification Search**
USPC D13/101, 123, 164, 174; D15/5, 7,
D15/122-124, 126-129, 131, 132,
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D278,793 S * 5/1985 Smith D15/5
D280,726 S * 9/1985 Ruter D15/6
(Continued)

FOREIGN PATENT DOCUMENTS

WO WO-2007095254 A1 * 8/2007 H02K 7/12

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Assistant Examiner — Fitzgerald L Butac

(74) *Attorney, Agent, or Firm* — Wenderoth, Lind & Ponack, L.L.P.

(57) **CLAIM**

We claim the ornamental design for an electrically operated actuator, as shown and described.

DESCRIPTION

FIG. 1 is a front view of the first embodiment of the present design;

FIG. 2 is a back view of the first embodiment;

FIG. 3 is a plan view of the first embodiment;

FIG. 4 is a bottom view of the first embodiment;

FIG. 5 is a right side view of the first embodiment;

FIG. 6 is a left side view of the first embodiment;

FIG. 7 is a perspective view as viewed from the front direction according to the first embodiment;

FIG. 8 is a perspective view as viewed from the back direction according to the first embodiment;

FIG. 9 is a perspective view from the front left of the first embodiment, in a retracted position;

FIG. 10 is another perspective view from the front left of the first embodiment, in a protracted position;

FIG. 11 is a front view of the second embodiment of the present design;

FIG. 12 is a back view of the second embodiment;

FIG. 13 is a plan view of the second embodiment;

FIG. 14 is a bottom view of the second embodiment;

FIG. 15 is a right side view of the second embodiment;

FIG. 16 is a left side view of the second embodiment;

FIG. 17 is a perspective view as viewed from the front direction according to the second embodiment;

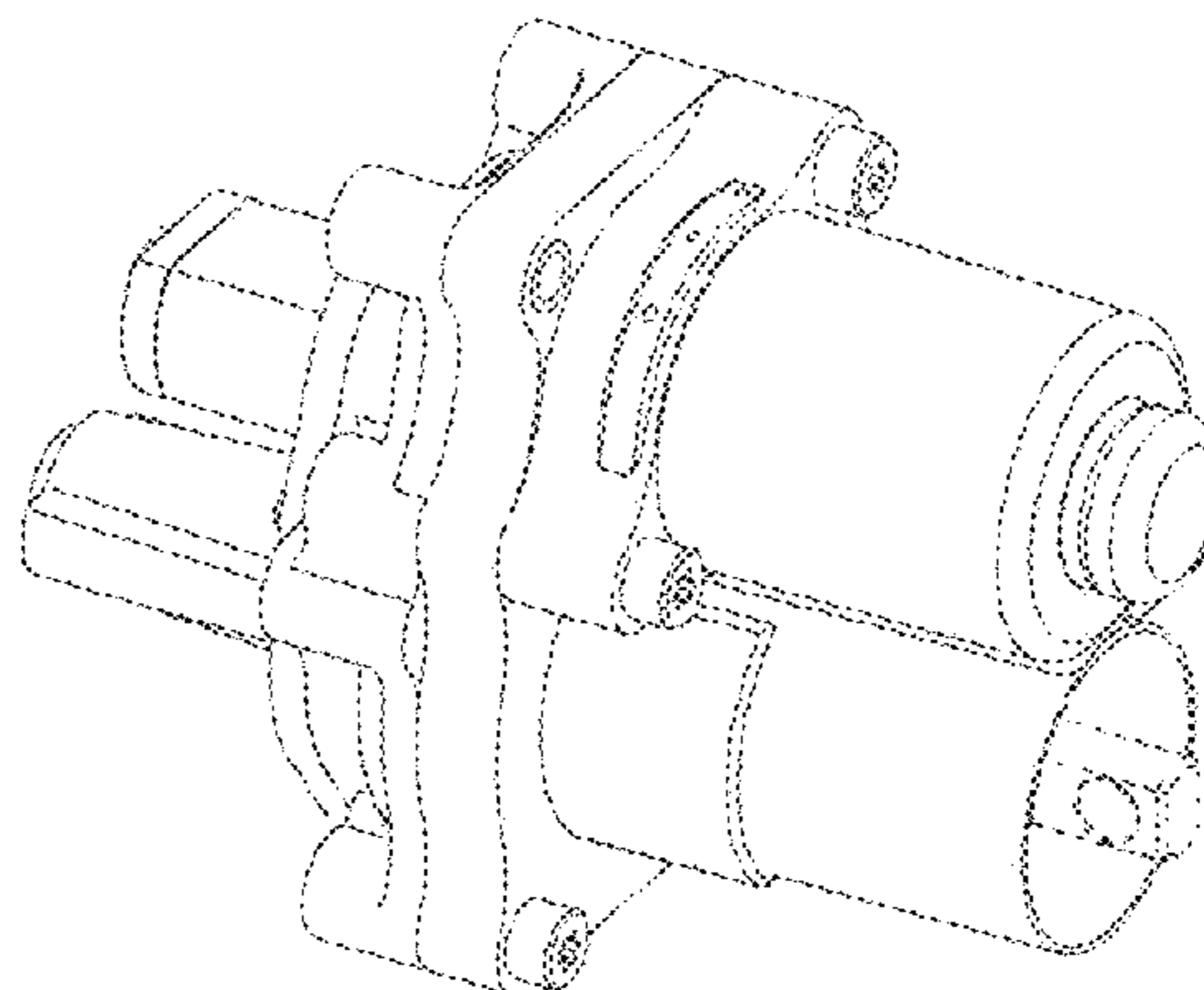
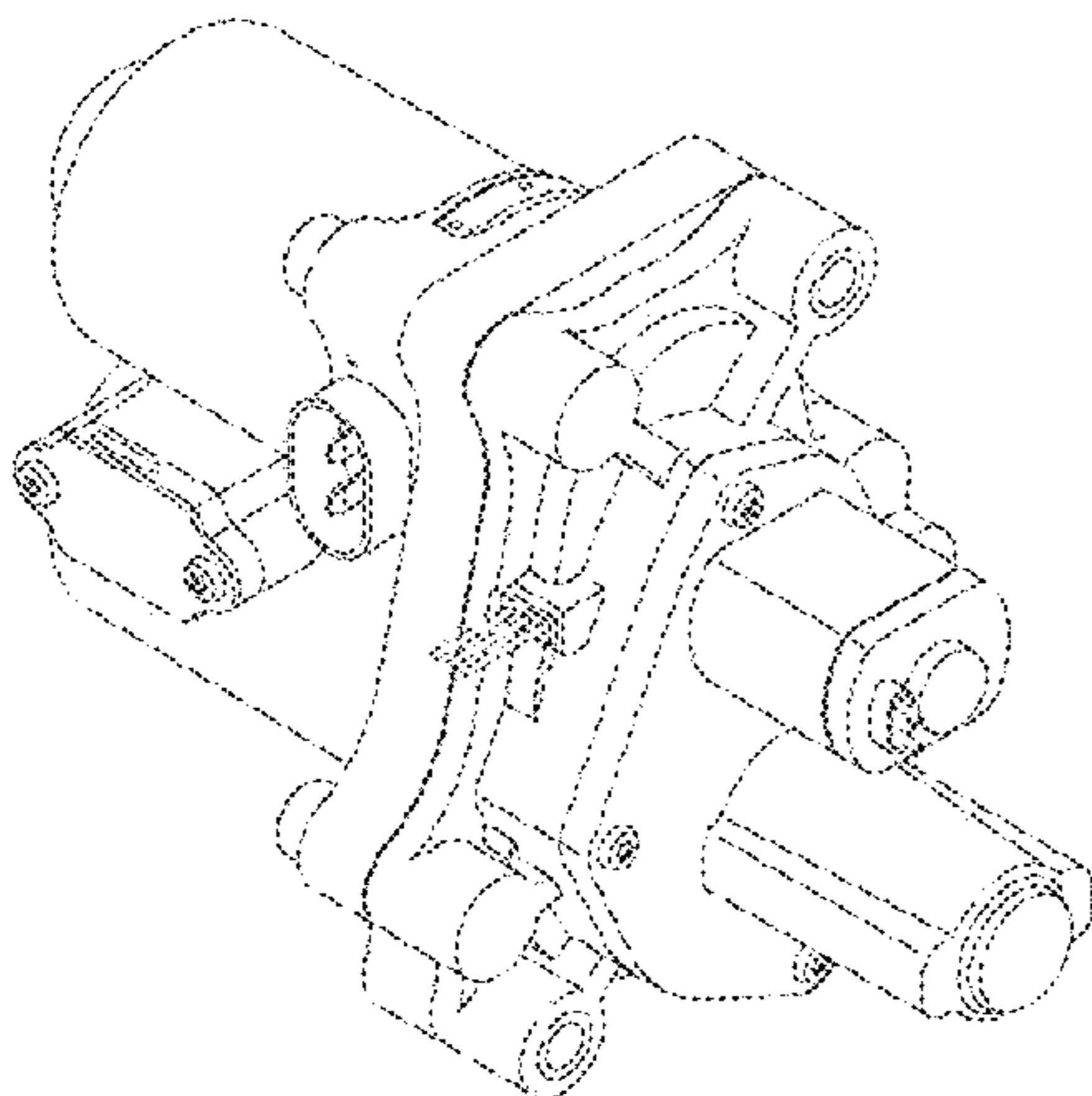
FIG. 18 is a perspective view as viewed from the back direction according to the second embodiment;

FIG. 19 is a perspective view from the front left of the second embodiment, in a retracted position; and,

FIG. 20 is another perspective view from the front left of the second embodiment, in a protracted position.

The broken lines show portions of an electronically operated actuator that form no part of the claimed design.

1 Claim, 20 Drawing Sheets



(30) **Foreign Application Priority Data**

Feb. 17, 2016 (JP) 2016-003351
 Feb. 17, 2016 (JP) 2016-003352

(58) **Field of Classification Search**

USPC D15/138-140, 142, 143, 148, 149, 199;
 D18/57
 CPC H02K 7/1166; F16H 25/20; F16H 57/039;
 F16H 2025/2034; F16H 2025/209
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D290,014 S * 5/1987 Christiansen D15/140
 D302,928 S * 8/1989 Kurtovic D8/33
 D306,866 S * 3/1990 Phillips, Sr. D15/139
 D327,077 S * 6/1992 Bailey D15/138
 D629,821 S * 12/2010 Jump D15/143
 D638,454 S * 5/2011 Torii D15/143
 D639,321 S * 6/2011 Torii D15/143
 D673,196 S * 12/2012 Von Hafen D15/148
 D673,197 S * 12/2012 Von Hafen D15/148
 D741,915 S * 10/2015 Fisher D15/5
 D749,135 S * 2/2016 Fisher D15/5
 D789,432 S * 6/2017 Tokuda D15/148
 D790,467 S * 6/2017 Marth D13/112
 D790,616 S * 6/2017 Tokuda D15/148
 D790,617 S * 6/2017 Tokuda D15/148
 D792,916 S * 7/2017 Kobayashi D15/148
 9,777,797 B2 * 10/2017 Okada F16H 1/145
 2016/0153527 A1 * 6/2016 Okada F16H 1/145
 74/412 R

* cited by examiner

FIG. 1

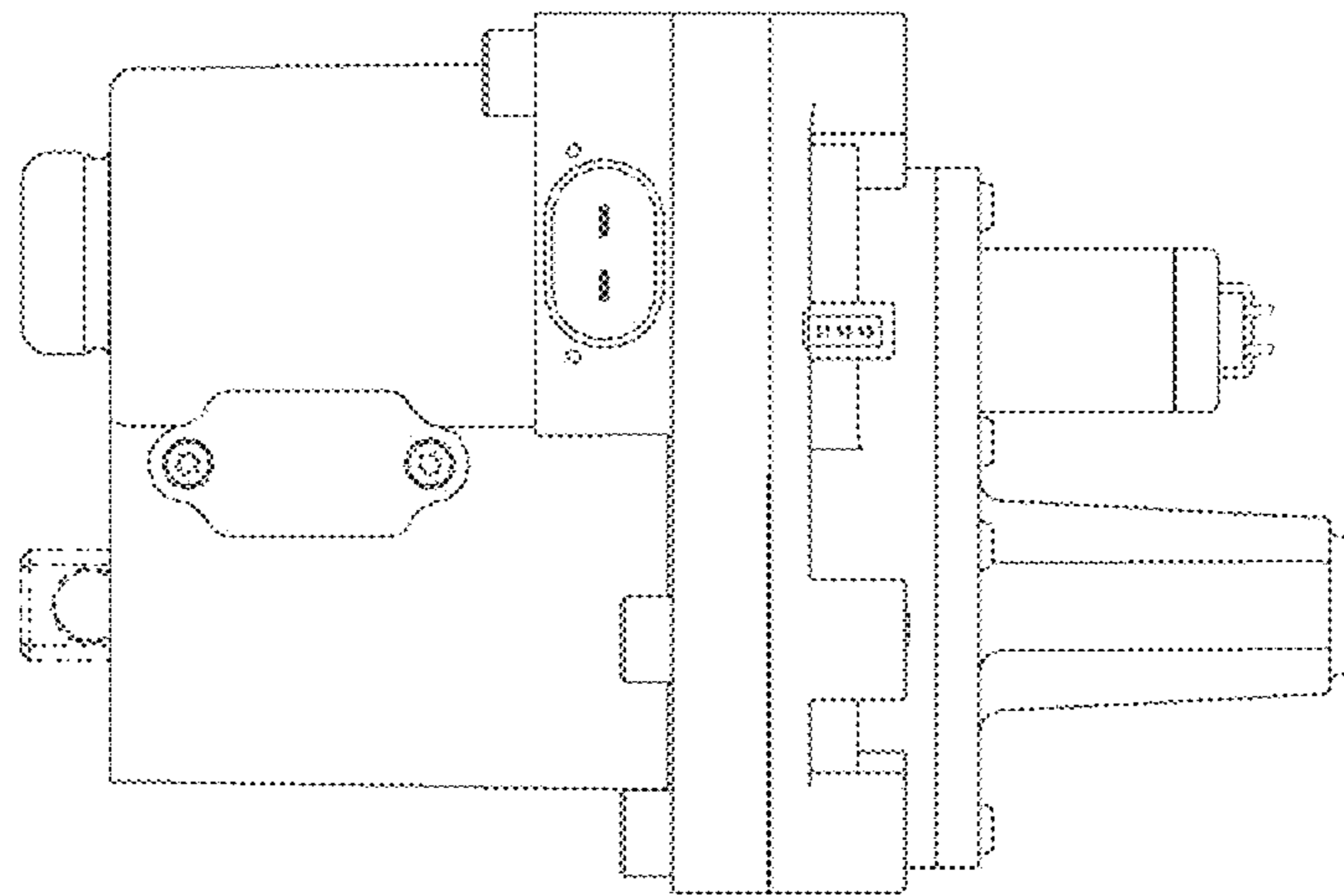


FIG. 2

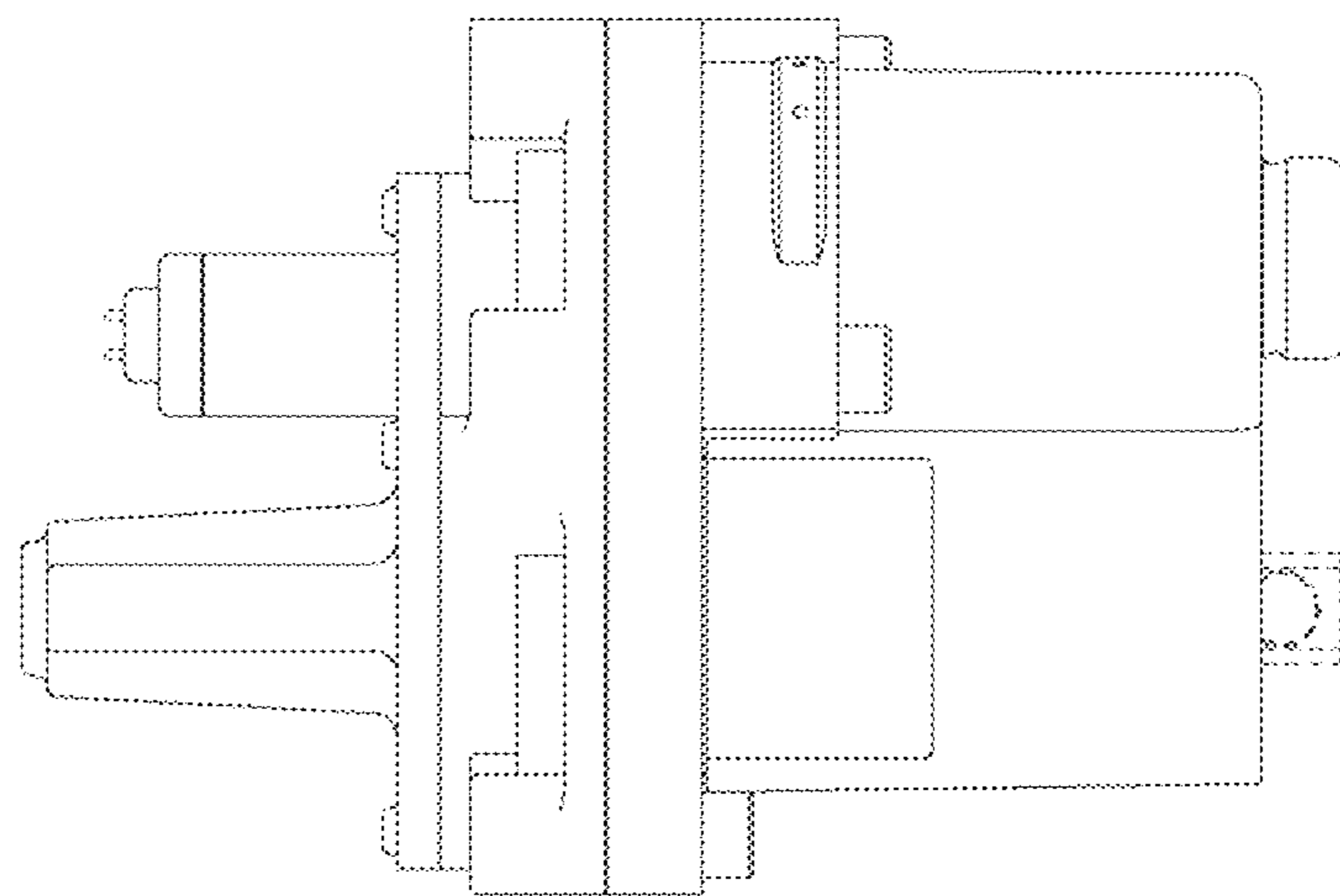


FIG. 3

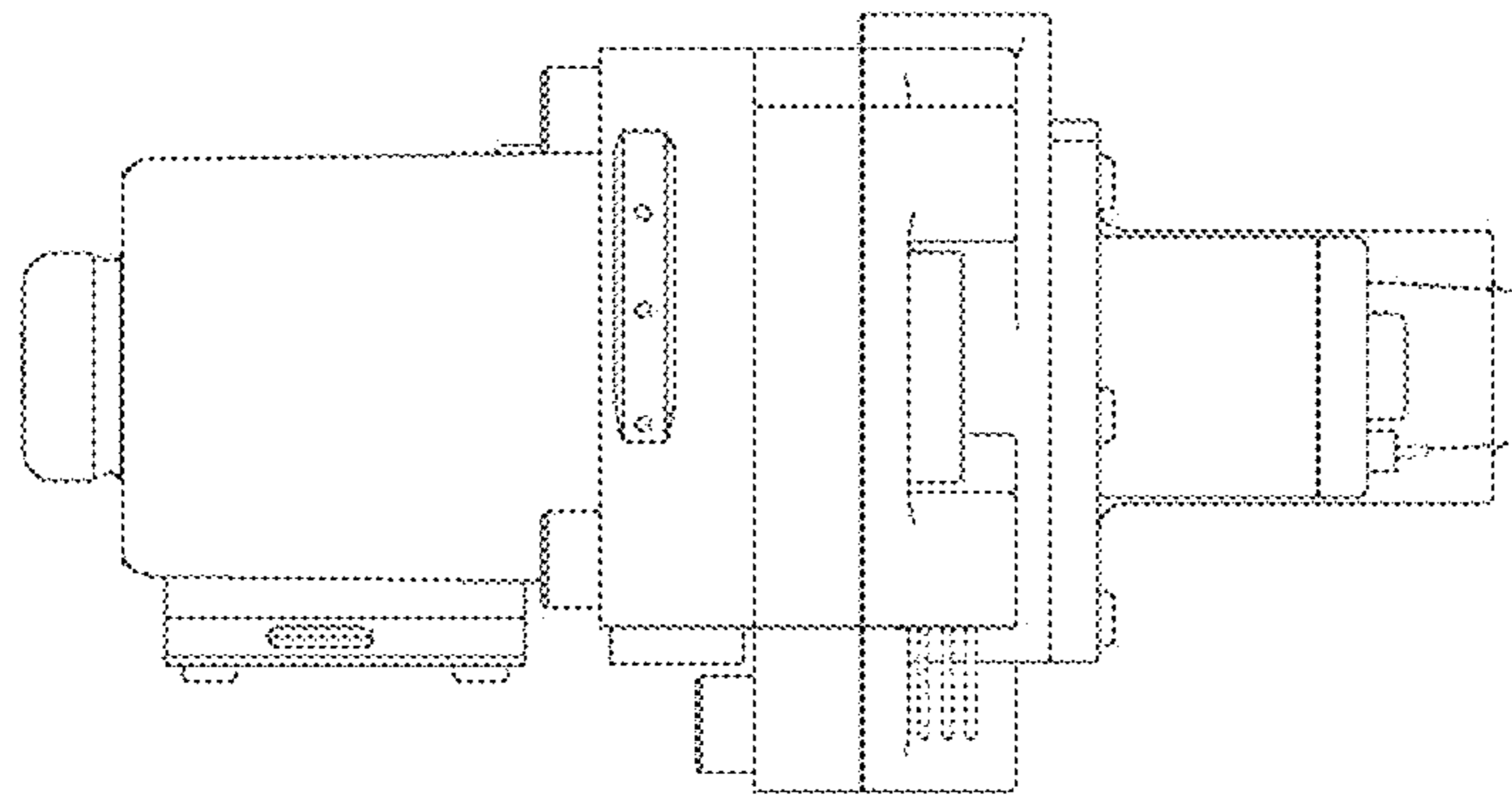


FIG. 4

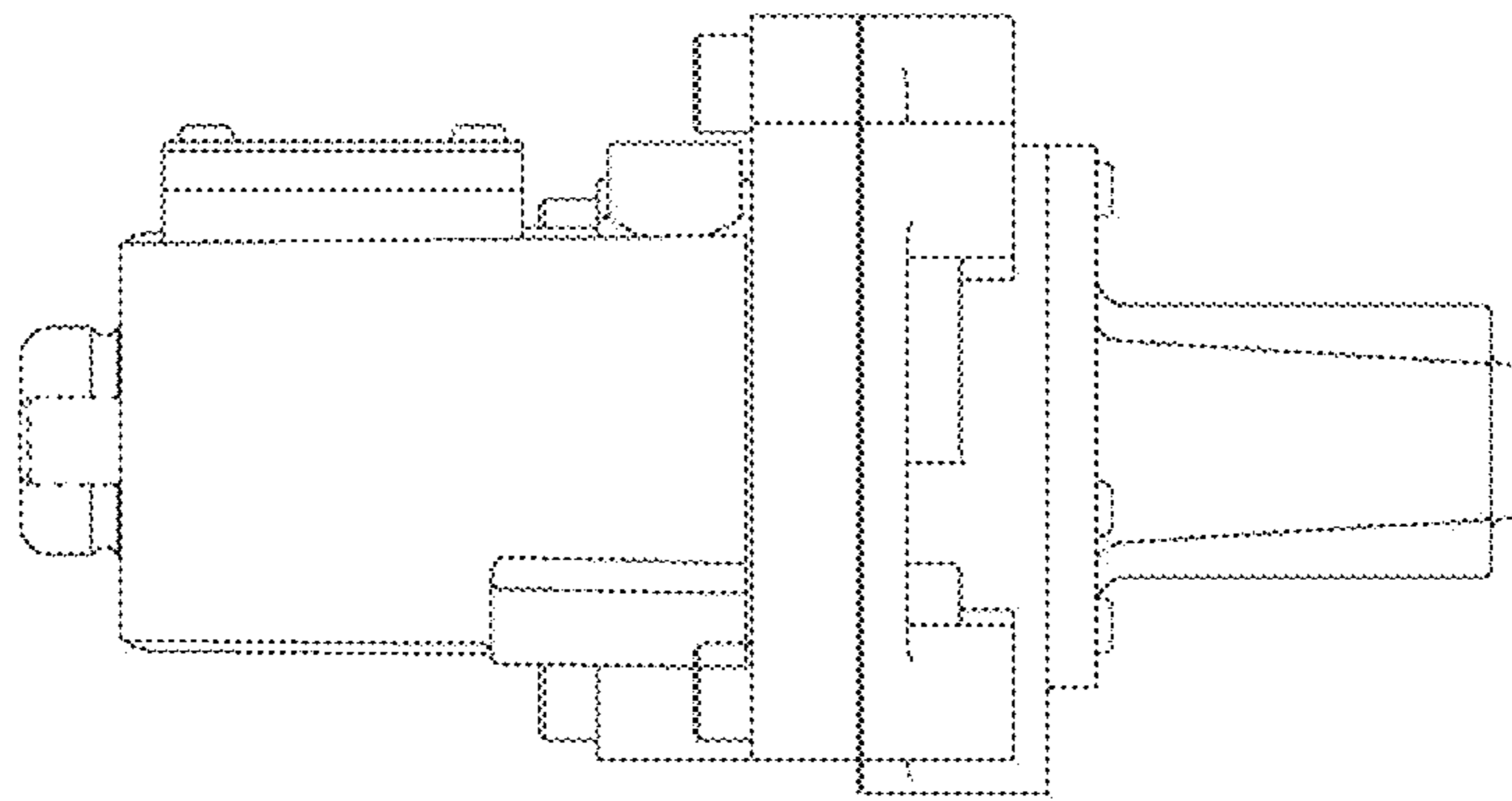


FIG. 5

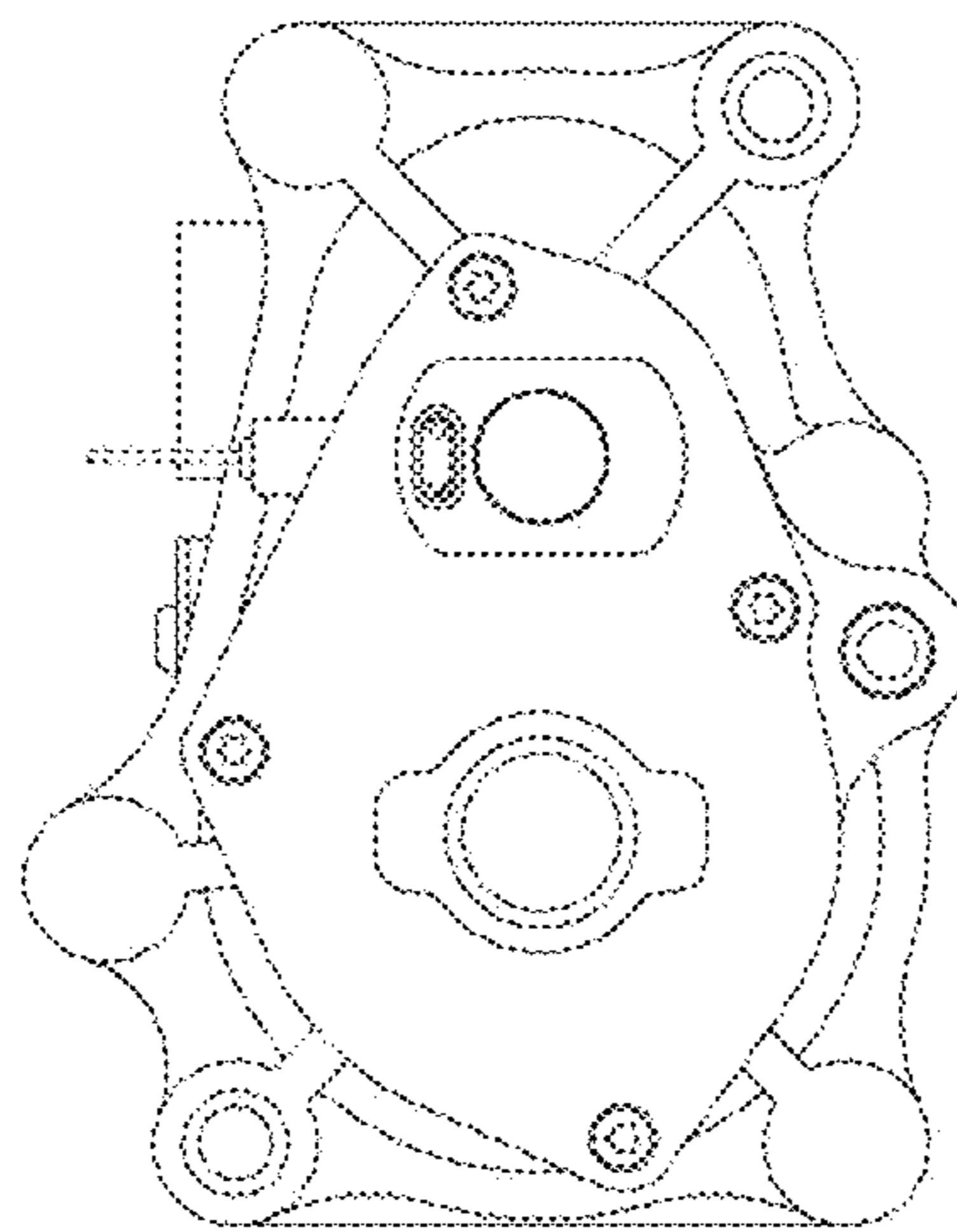


FIG. 6

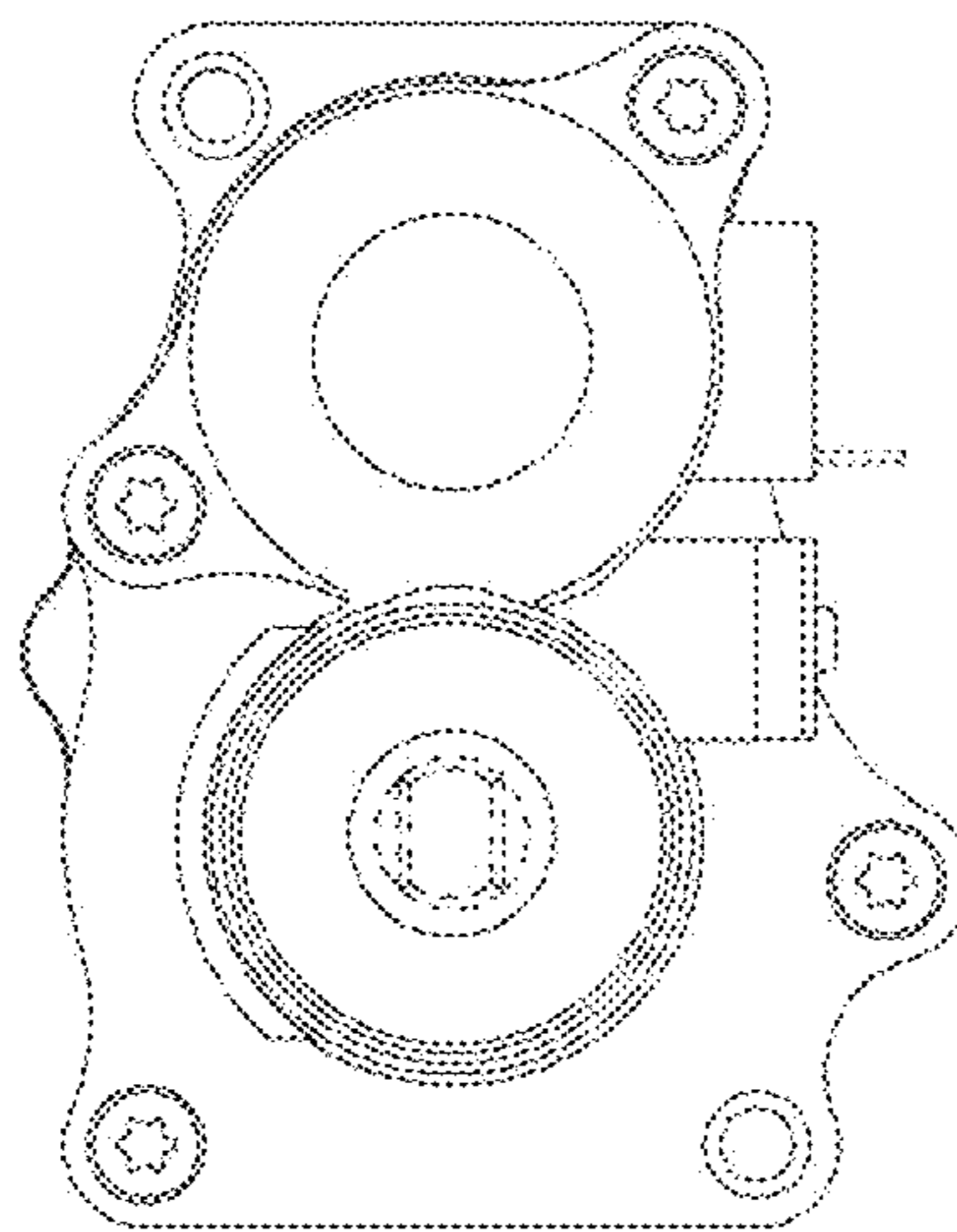


FIG. 7

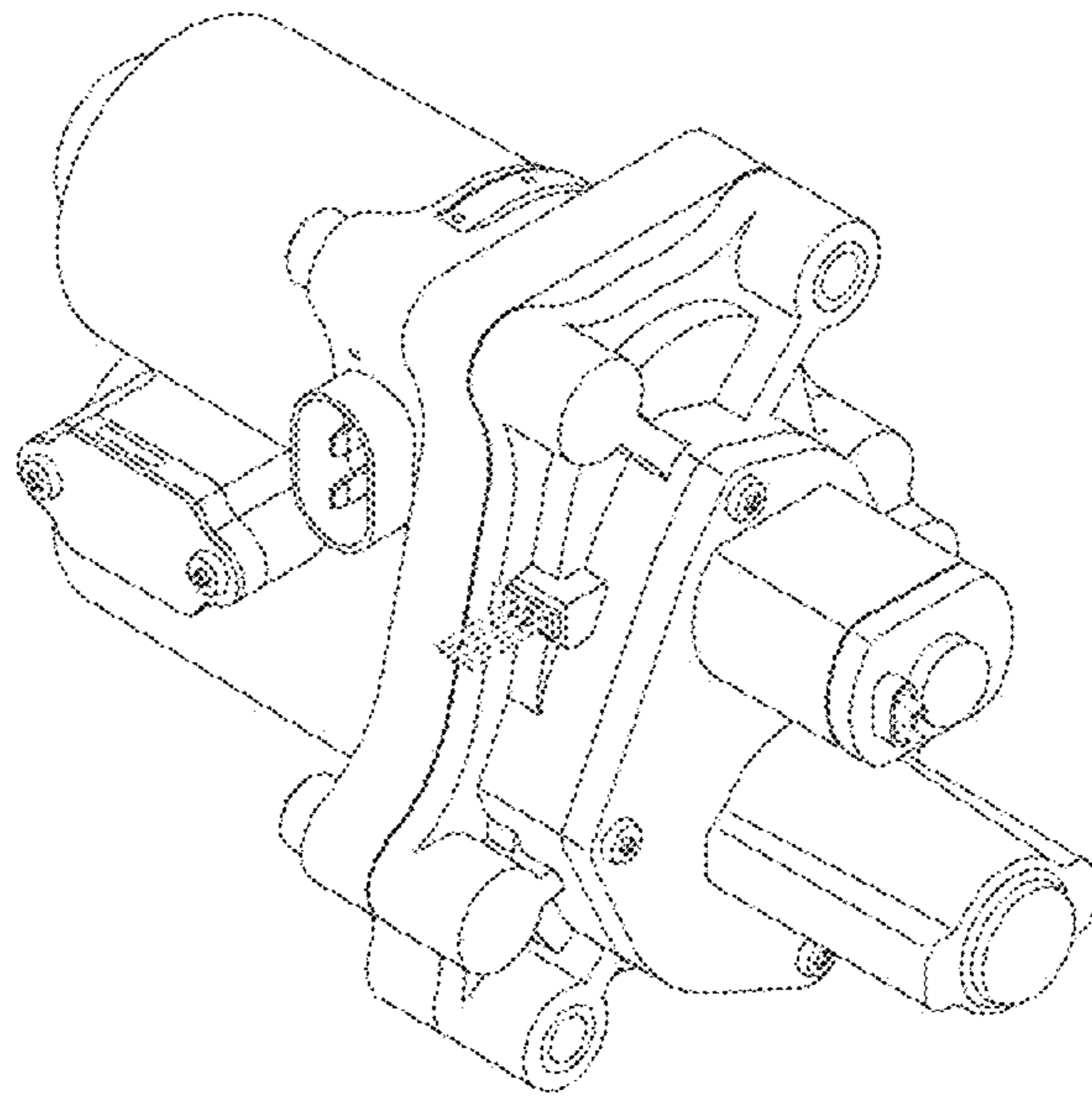


FIG. 8

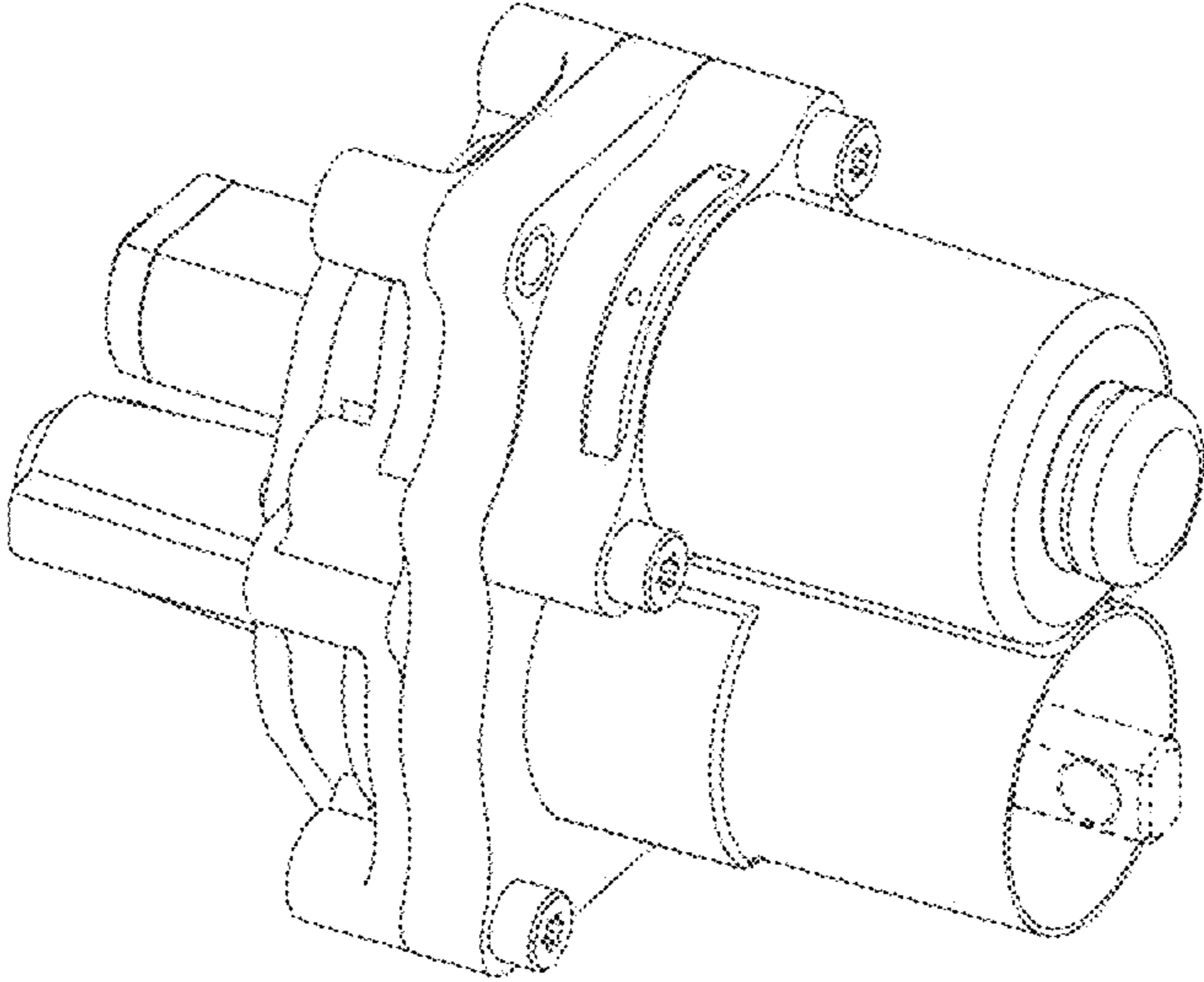


FIG. 9

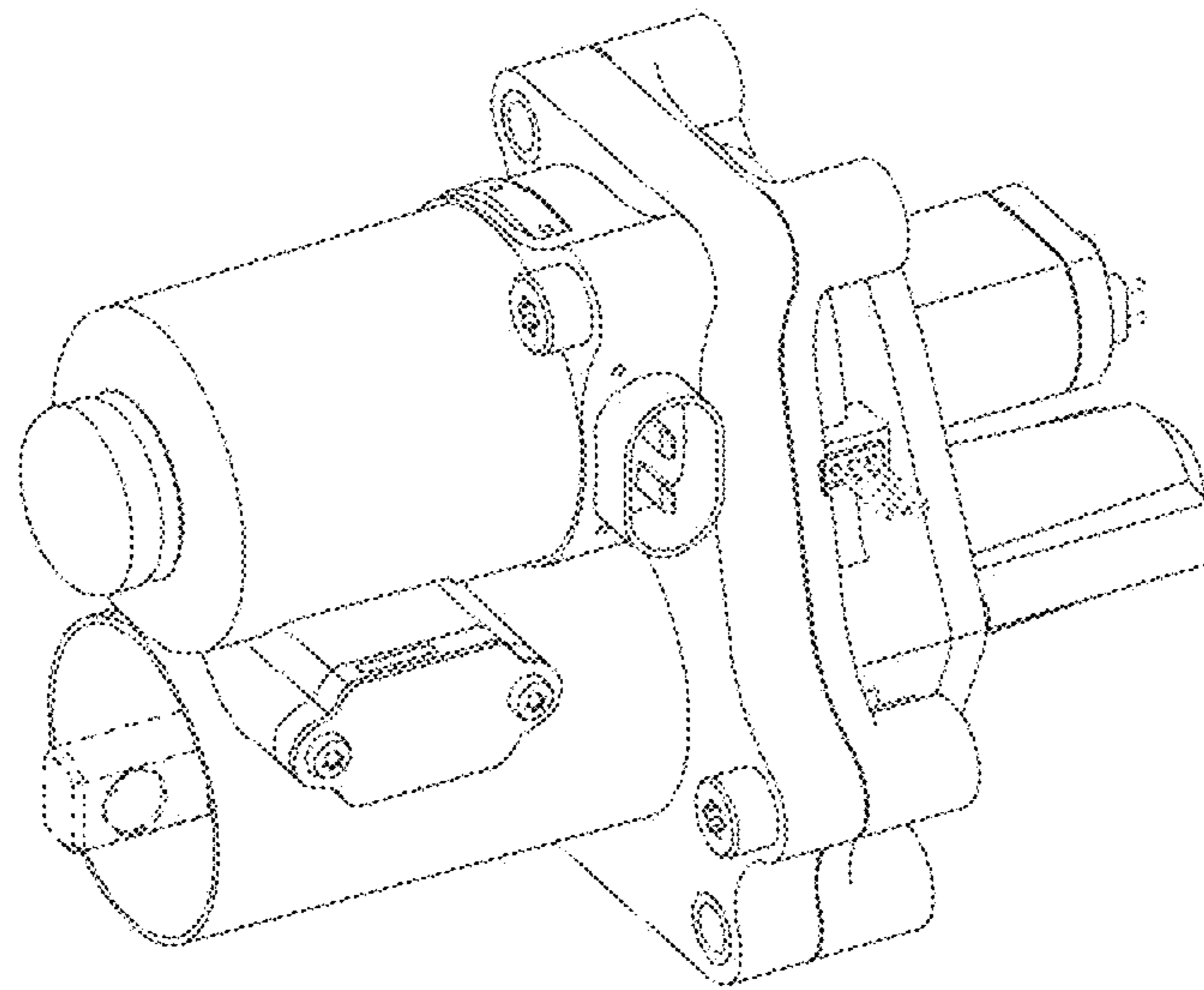


FIG. 10

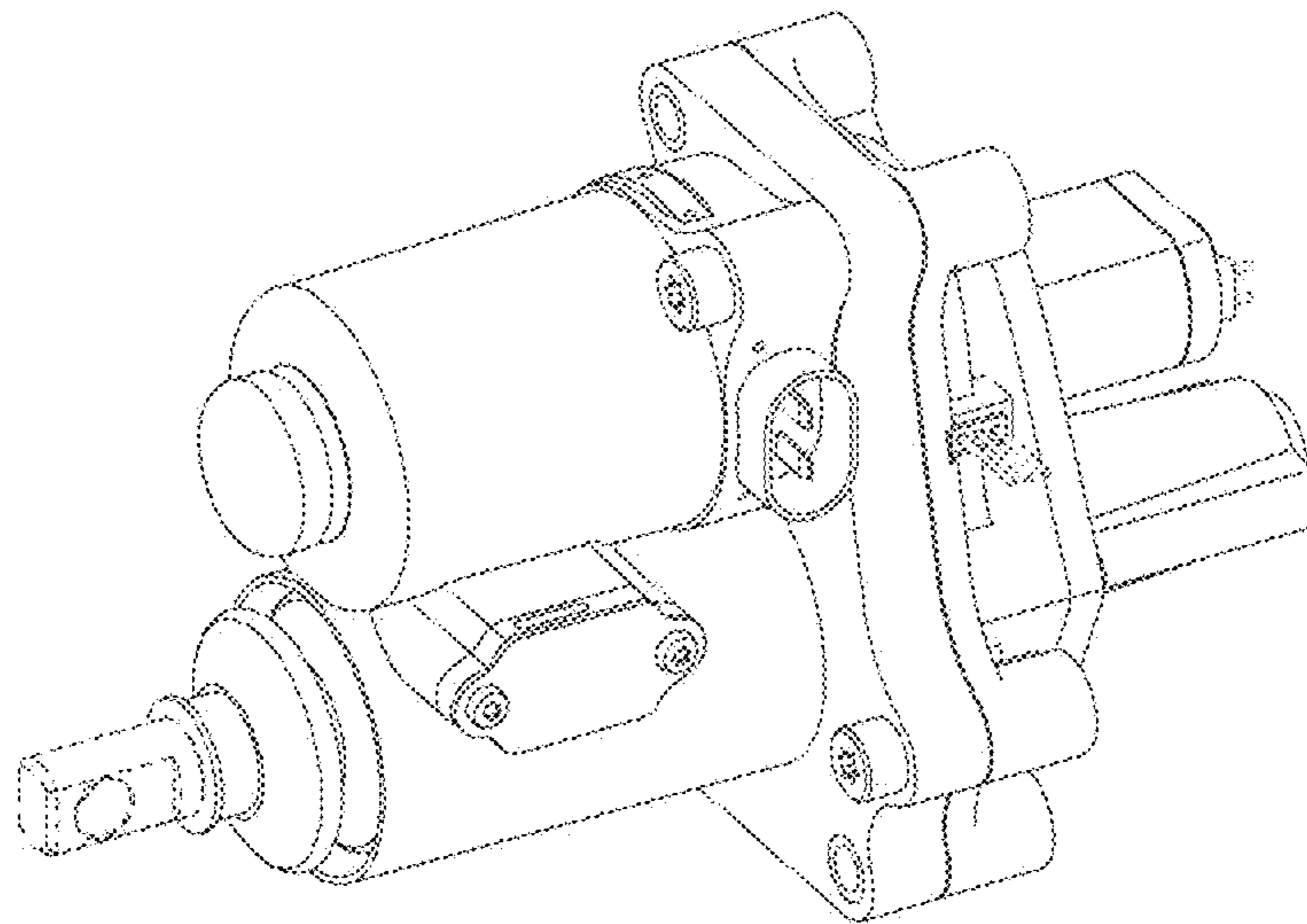


FIG. 11

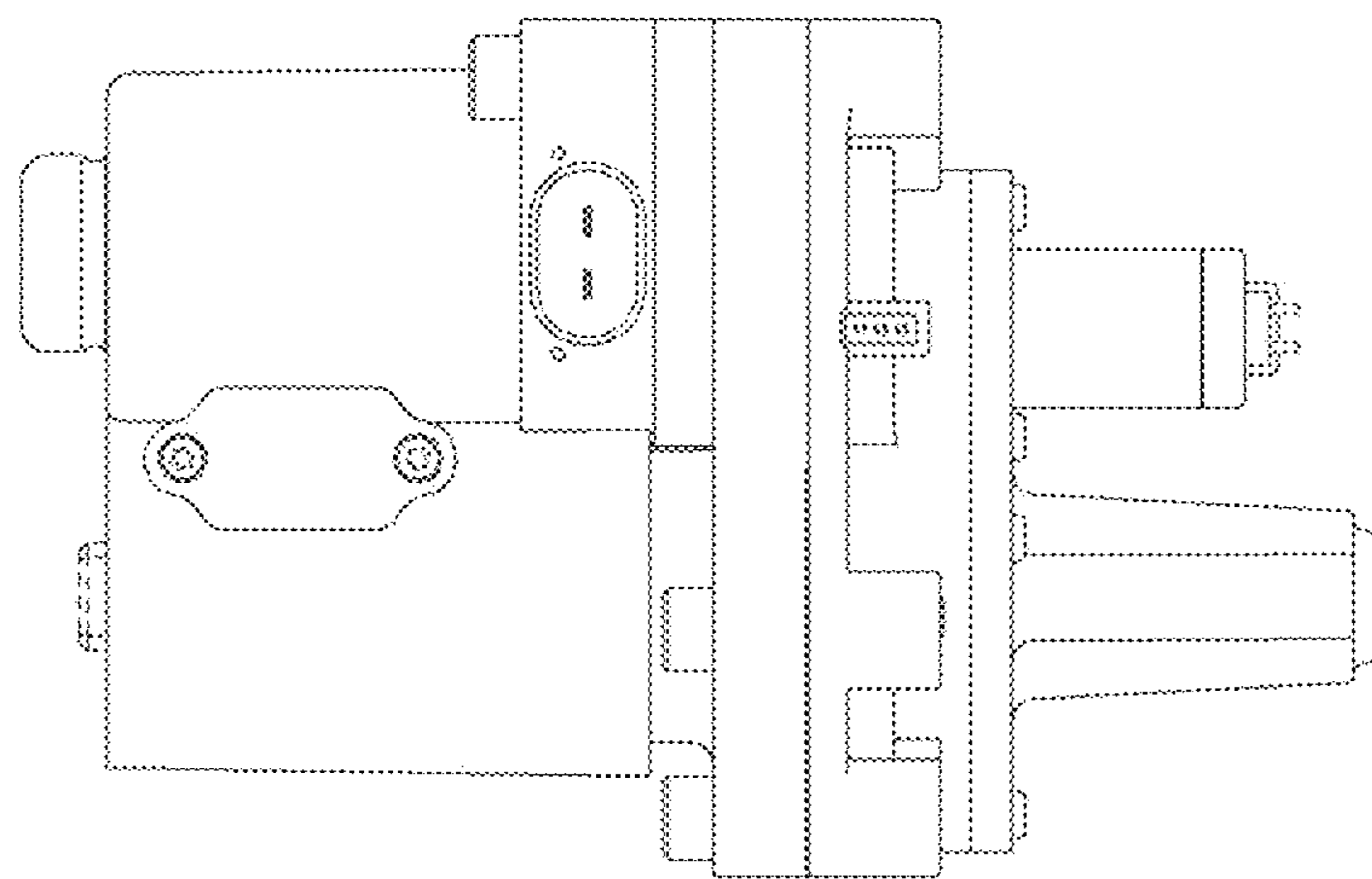


FIG. 12

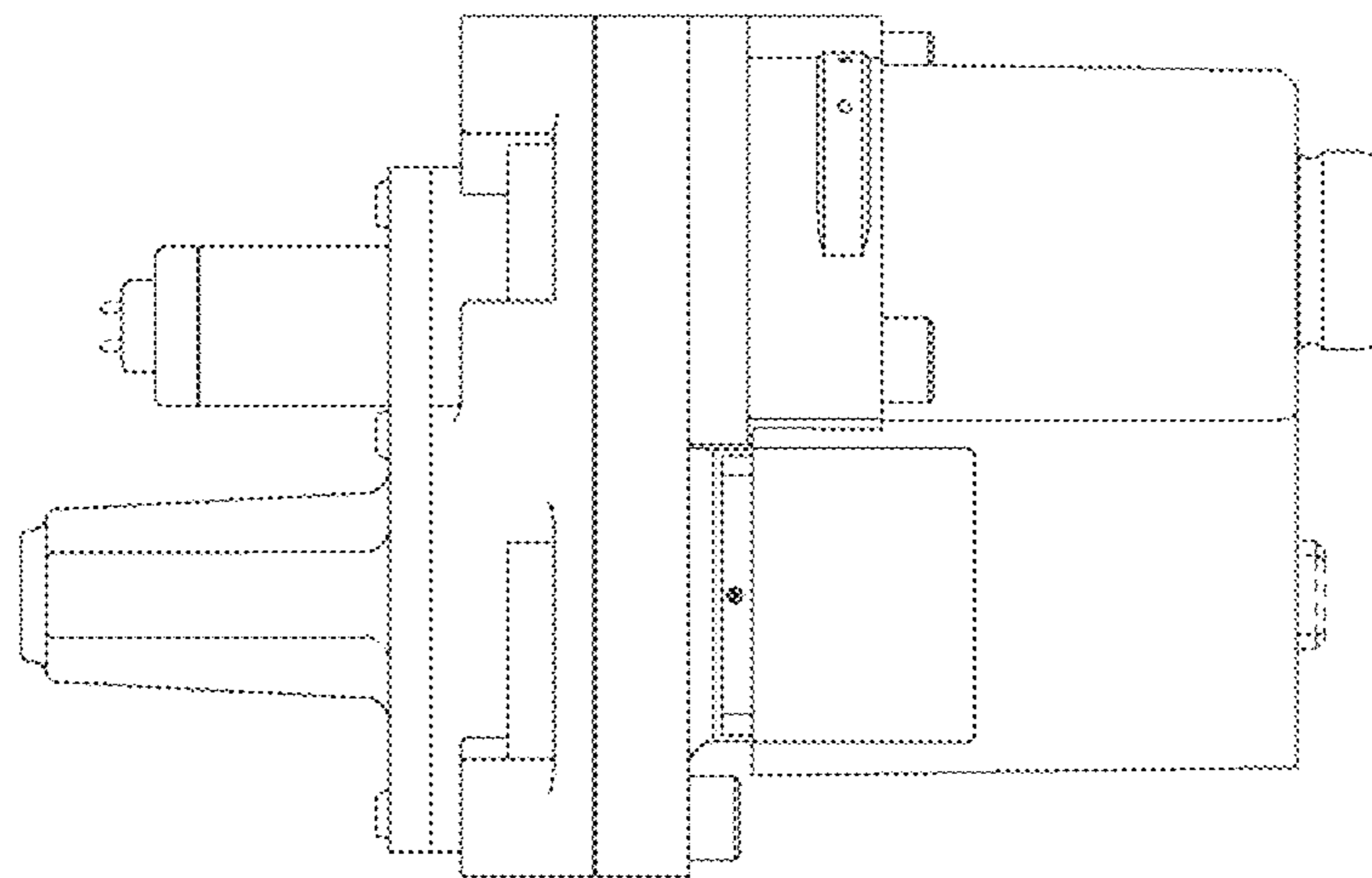


FIG. 13

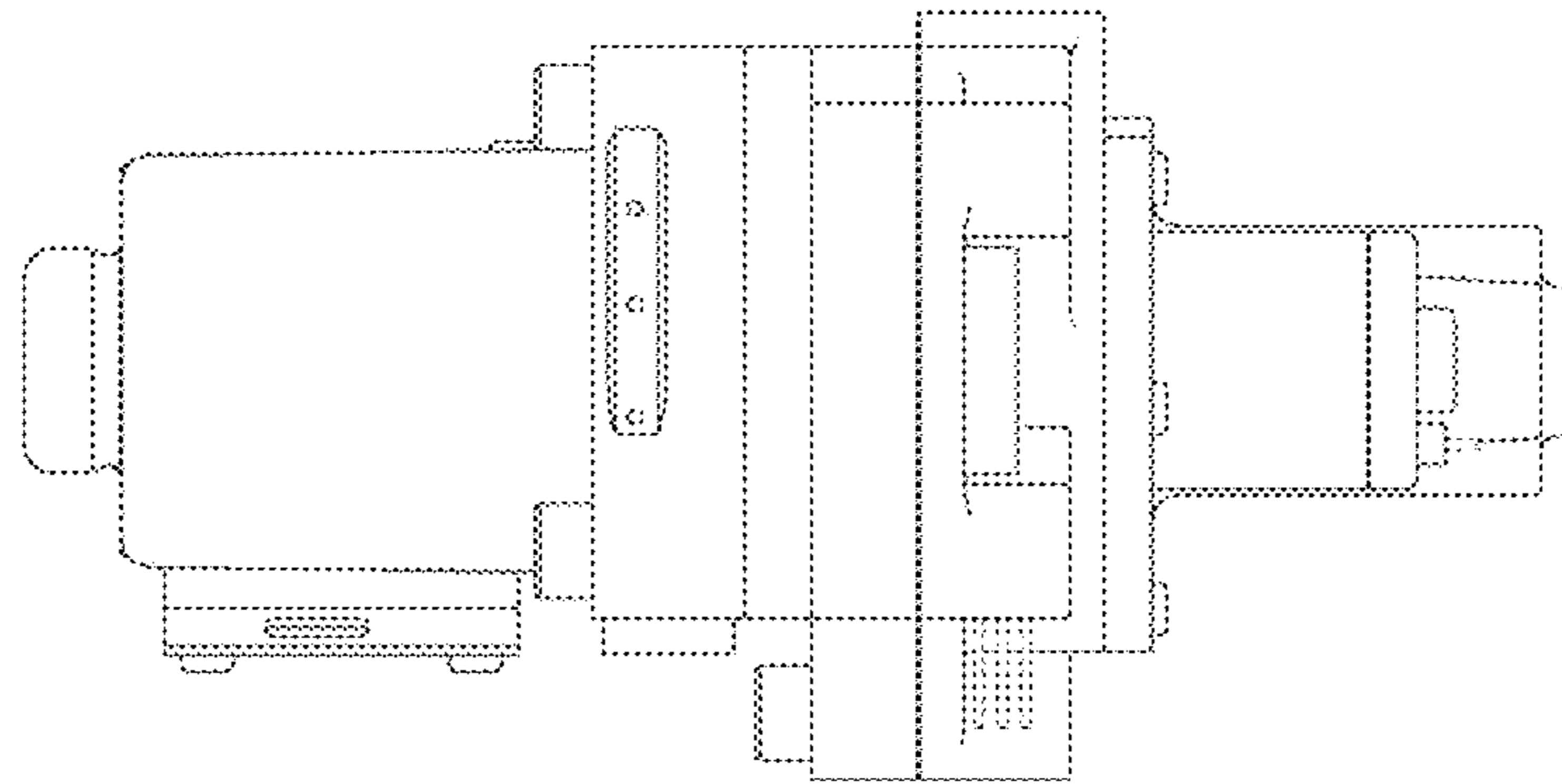


FIG. 14

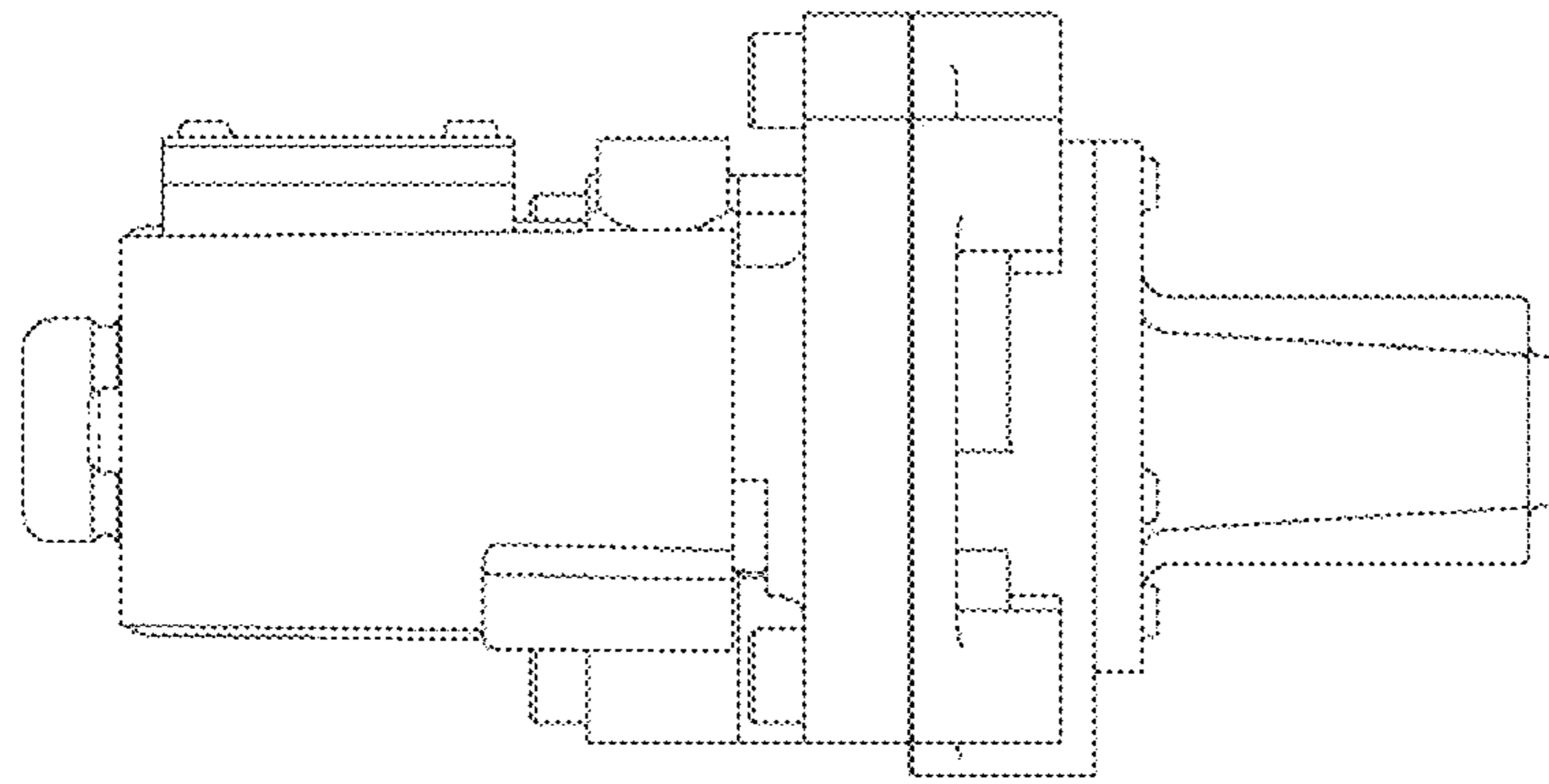


FIG. 15

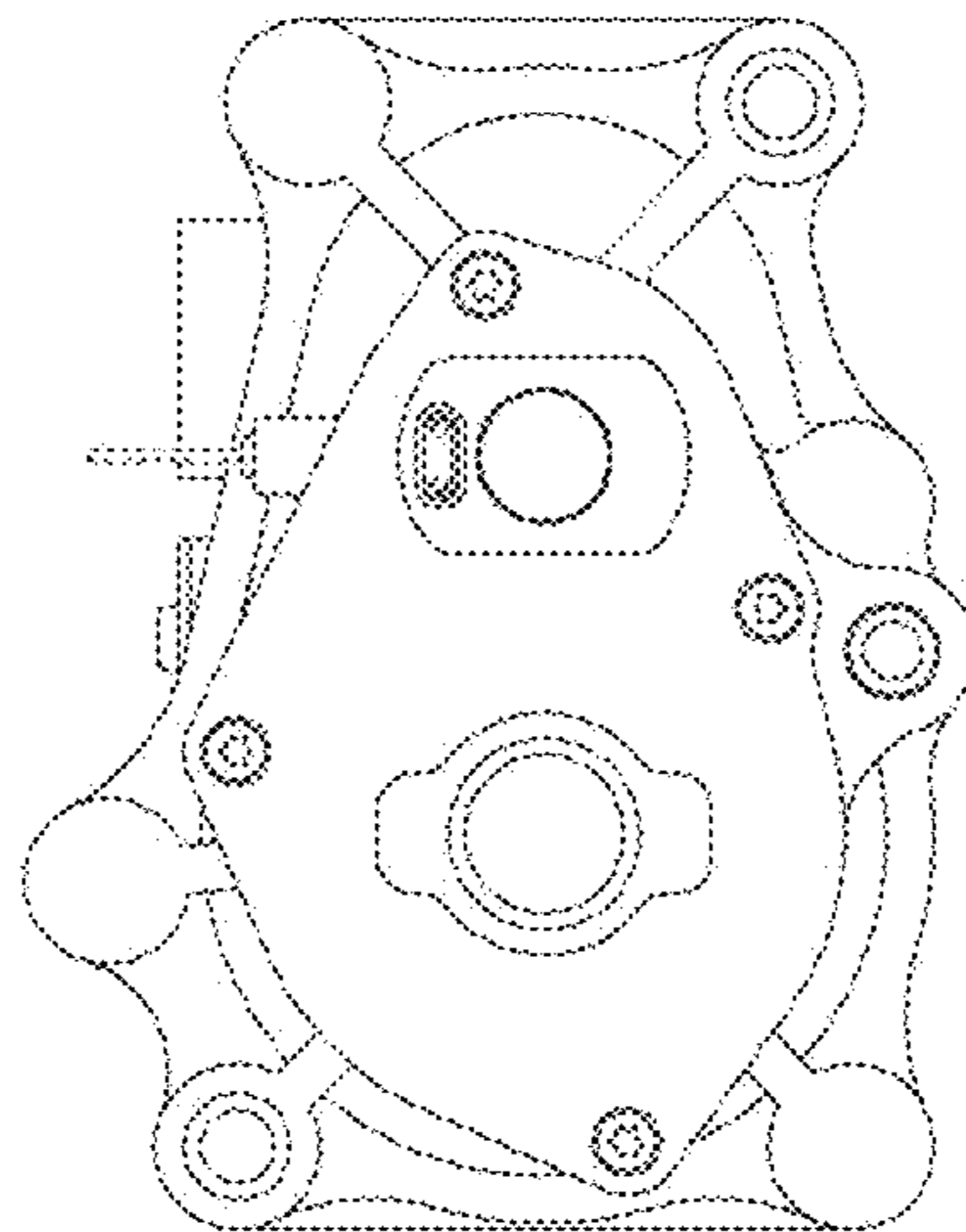


FIG. 16

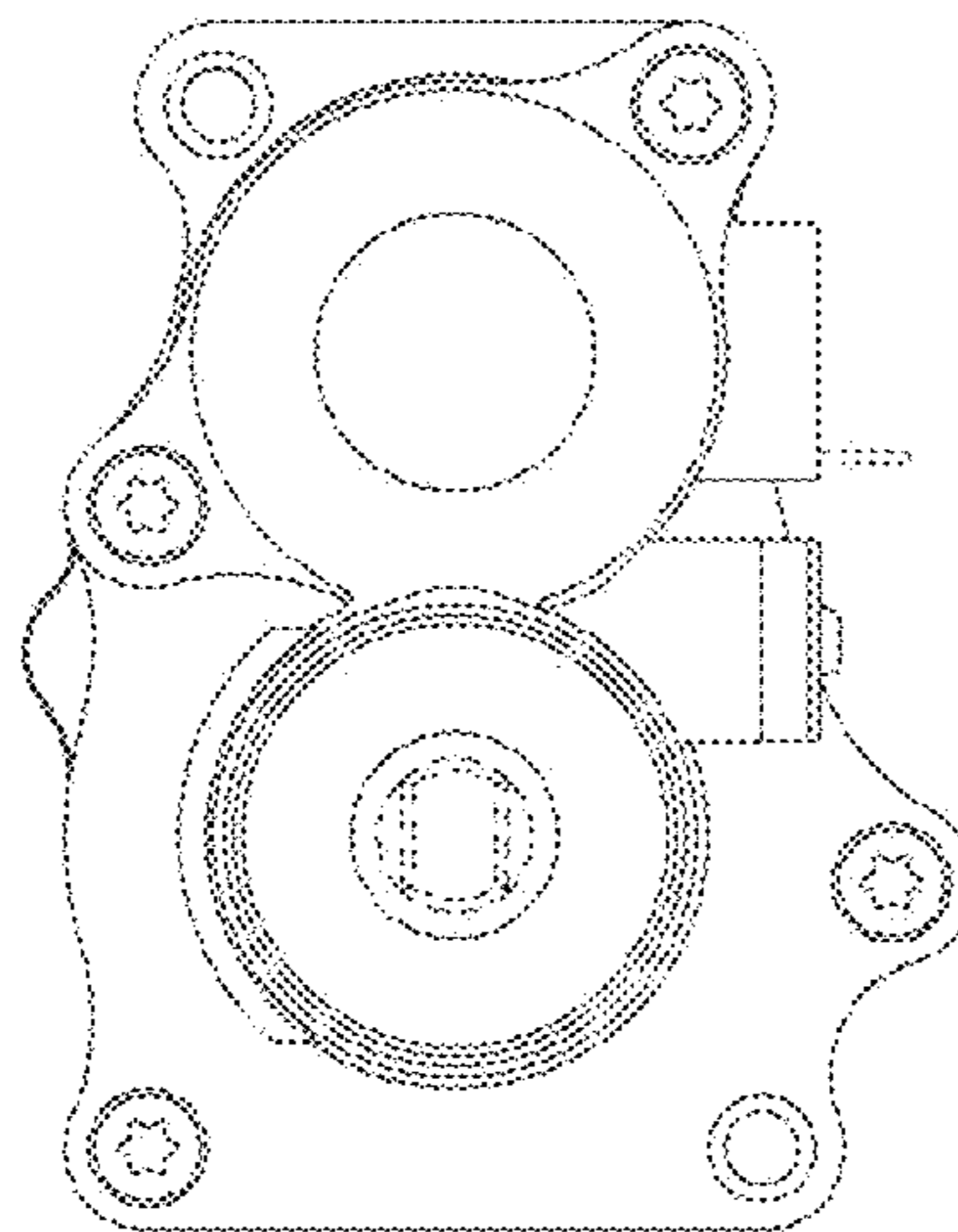


FIG. 17

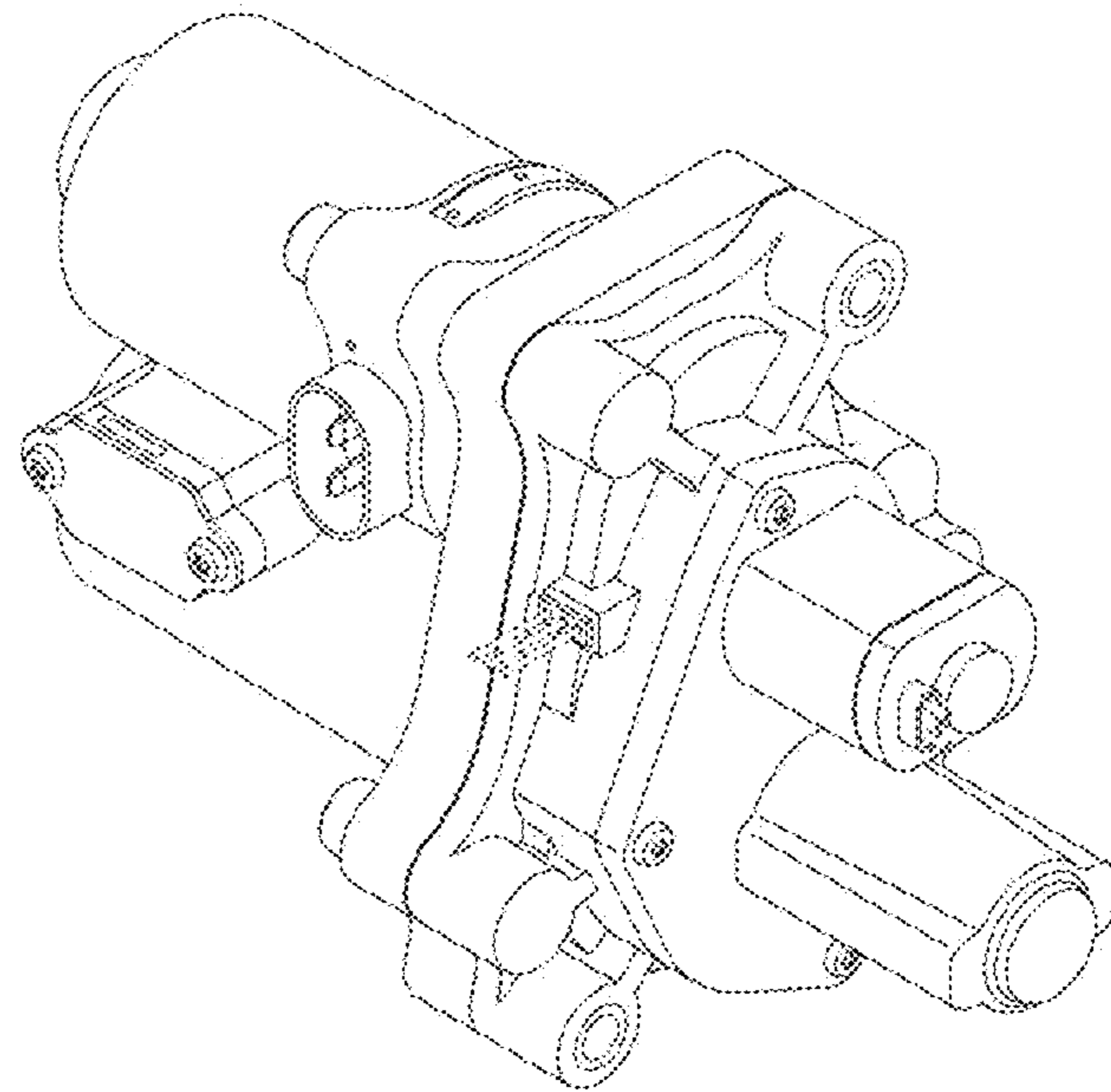


FIG. 18

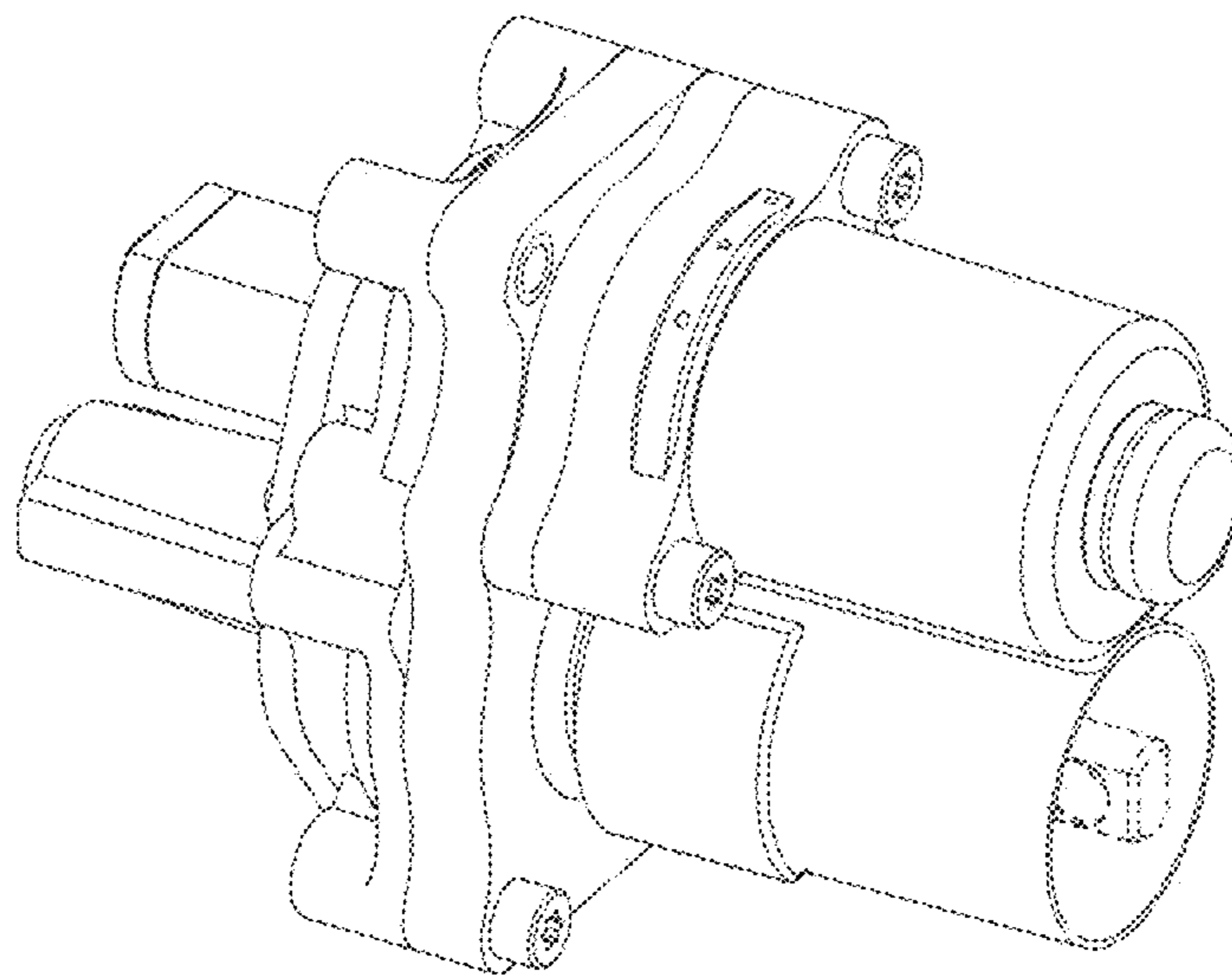


FIG. 19

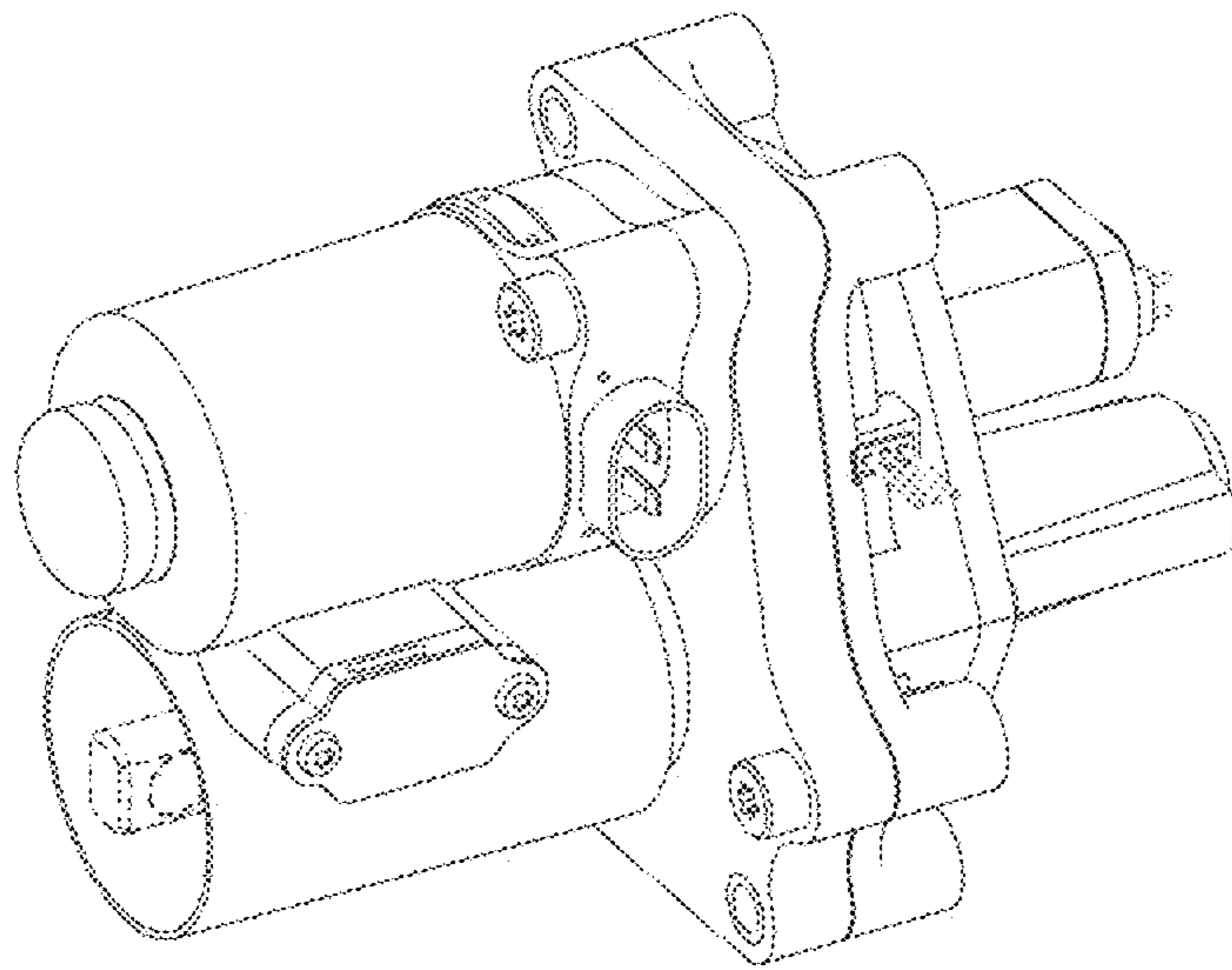


FIG. 20

