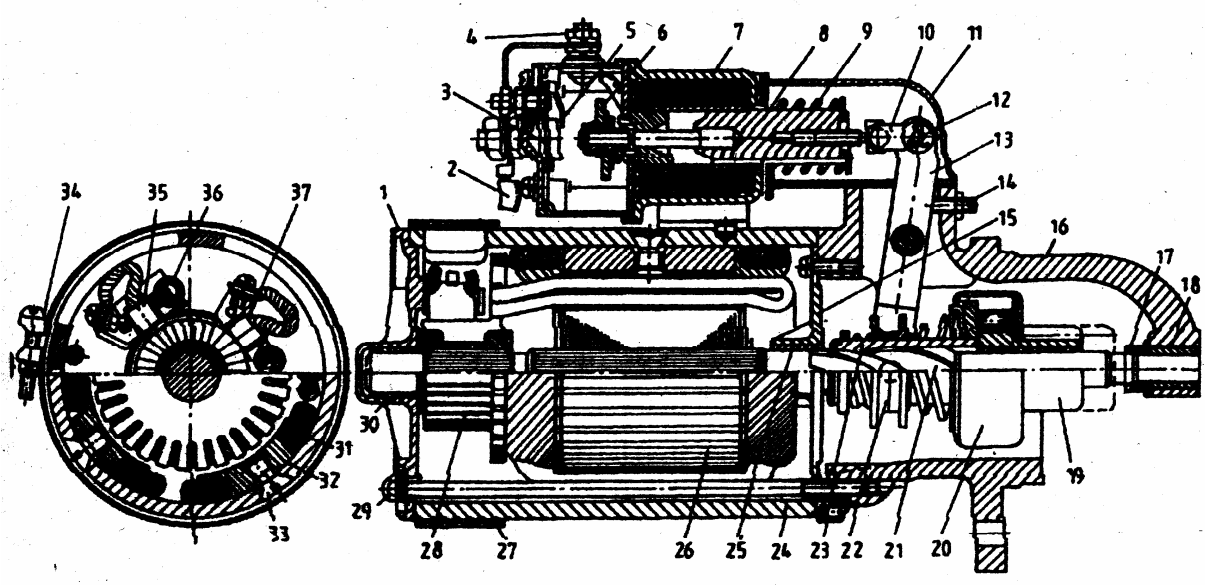


3.1.

800-1000 min⁻¹.

8000-12000 min⁻¹.



- 1 - ; 2 - ; 3 - ; 4 - ; 5 -
8 - ; 9 - ; 10 - ; 11 - ; 12 - ; 13 - ; 14 -
; 15 - ; 16 - ; 17 - ; 18, 25, 30 -
; 19 - ; 20 - ; 21 - ;
22 - ; 23 - ; 24 - ; 26 - ; 27 - ; 28 -
; 29, 30, 34 - ; 31 - ; 32 - ; 35 -
; 36 - ; 37 - .

32

31.

26

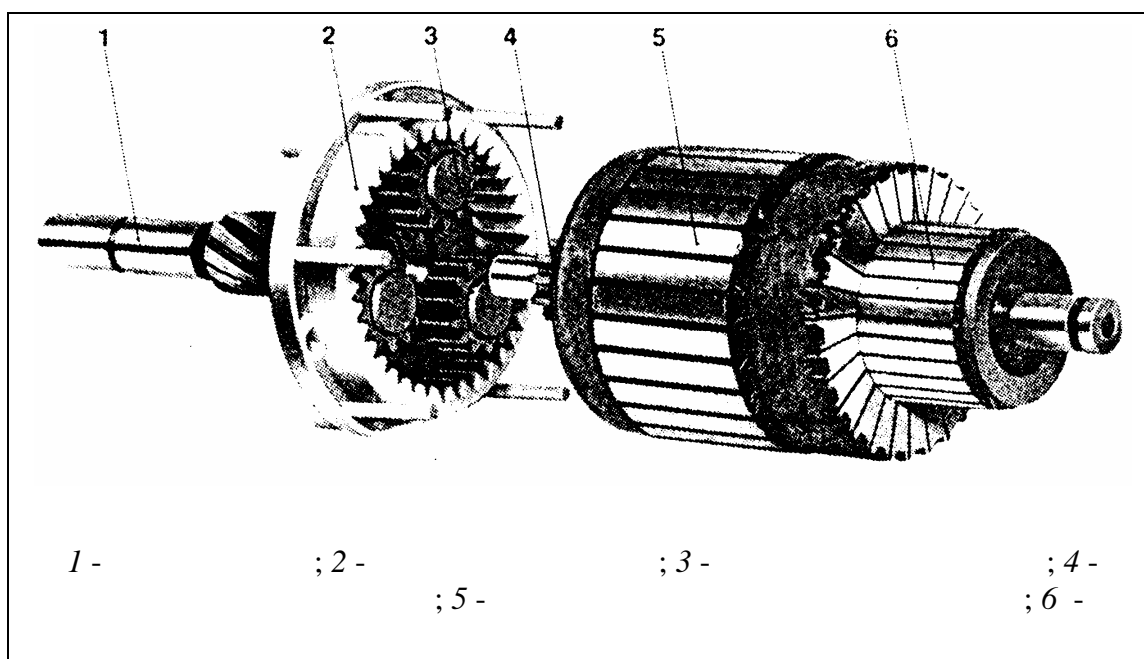
28.

28

37.

16

1



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-

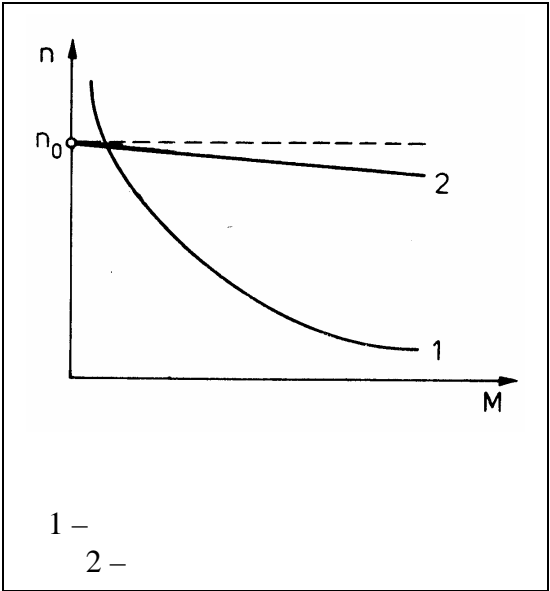
n M ,

,
(
)

- .

800 .

200-



35-130 .

M , P n

I .

$$M = C \cdot \Phi \cdot I_p$$

,

(, ,
); - ; I_p -

- ,

$$f(I)$$

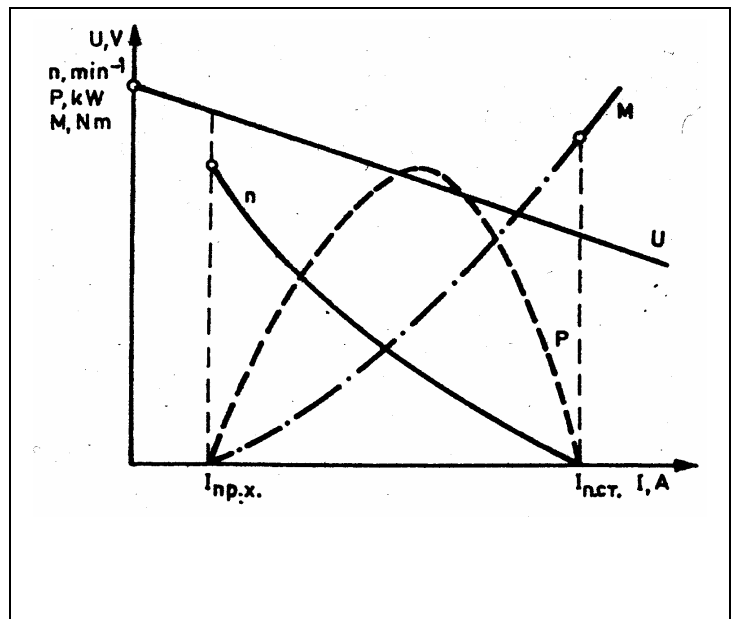
$$E = C \cdot n \cdot \Phi.$$

$$2500 - 9000 \text{ min}^{-1}.$$

$$P = M \cdot \omega = M \cdot \frac{\pi \cdot n}{30}$$

$$n = 0 \quad \quad \quad = 0$$

$$P \quad \quad \quad , \quad \quad -$$



$$I : I = 0,5.I$$

$$= f(I), U = f(I), n = f(I) \quad M = f(I)$$

-
-

;

1

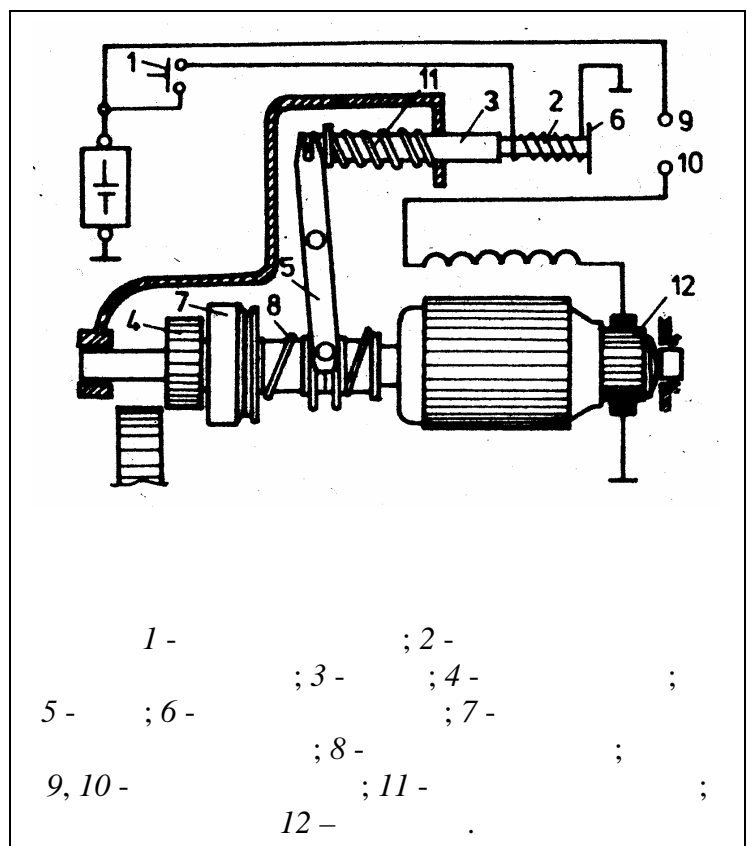
3.

5

4,

6.

9 10



4.

11

5

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4,

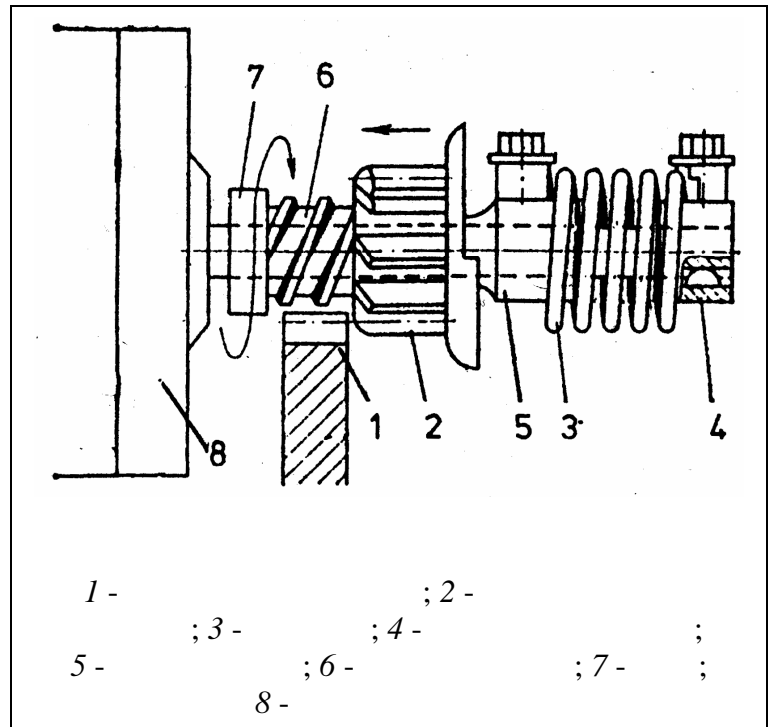
3

5.

6

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7.



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6

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1.

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5

8.

7

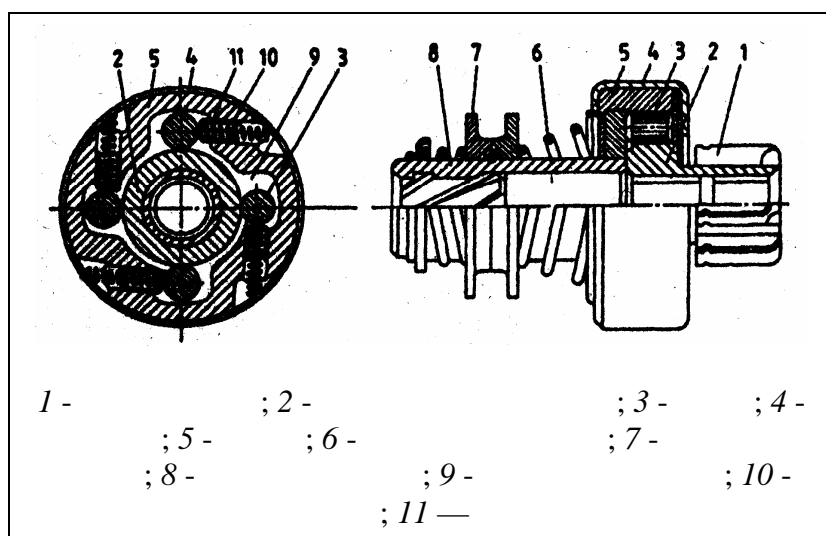
2,

3.

11

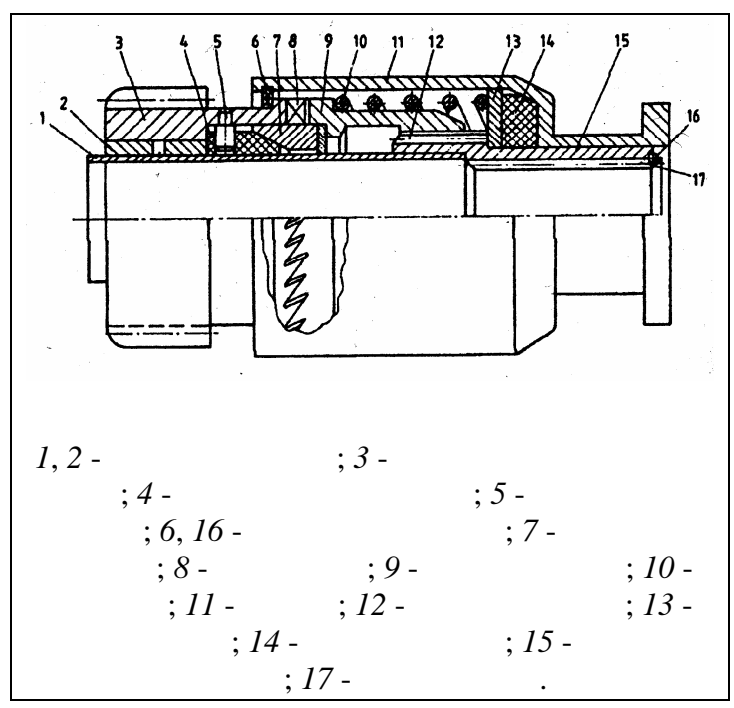
10

4,

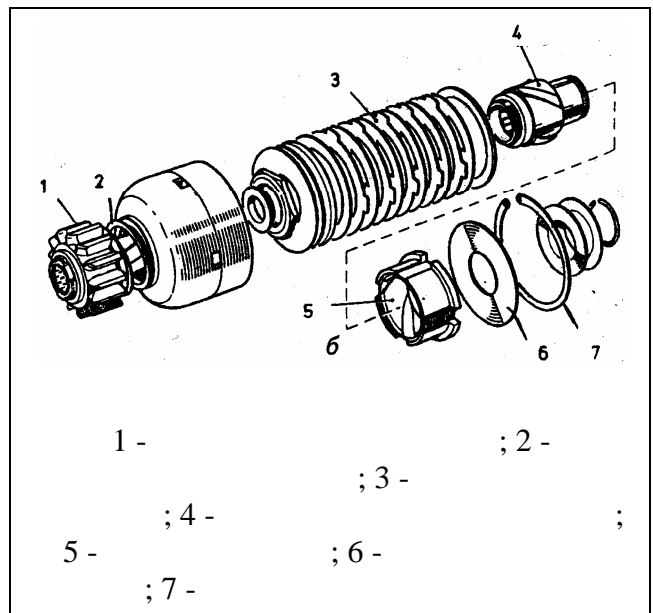


11, 9 3
 15, 4 5,
 7, 10 6 16. 9
 12 15. 10
 8.
 17

15 9,
 3.
 3.
 10,
 4
 5,
 7



4 kW.



()

E .

20-30

8-10 s.

30-40 s

„ ”

1. Starter operation. 2:31.

https://www.youtube.com/watch?v=8WD5Q_PF3pM

2. How starter motor works. 2:15.

<https://www.youtube.com/watch?v=znrN2mgtxoM>

3. How car engine really starts. 1:52.

<https://www.youtube.com/watch?v=LPn7CtfZlT0>