

Title (en)  
ENGINE STARTER

Title (de)  
BRENNKRAFTMASCHINENANLASSER

Title (fr)  
DEMARREUR DE MOTEUR

Publication  
**EP 1321667 A4 20061227 (EN)**

Application  
**EP 01972569 A 20010928**

Priority  
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Abstract (en)  
[origin: EP1321667A1] In an engine starter system adapted to crank an engine first in a reverse direction at least under a prescribed condition, and finally in a normal direction, a favorable swing cranking action can be achieved when necessary in a reliable manner. The rotational speed of the electric motor when rotating the crankshaft in the reverse direction is controlled so as to prevent the crankshaft from rotating in the reverse direction beyond the top dead center from the side of the expansion stroke. Thus, by controlling the rotational speed of the crankshaft, the crankshaft is prevented from rotating beyond the top dead center and made to stop at a position immediately before the top dead center. This provides a maximum spring back force of the compression pressure which assists the electric motor in rotating the crankshaft in the normal direction. This assist force, combined with a large approach run distance that can be obtained, ensures a reliable cranking of the engine while minimizing the size and power consumption of the electric motor. <IMAGE>

IPC 8 full level  
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Citation (search report)  
• [X] WO 0034649 A1 20000615 - MITSUBA CORP [JP]  
• [A] US 5458098 A 19951017 - YAGI TOYOJI [JP], et al  
• [PX] JP 2000283010 A 20001010 - HONDA MOTOR CO LTD  
• [PA] EP 1046813 A1 20001025 - HONDA MOTOR CO LTD [JP]  
• [PA] WO 0138728 A1 20010531 - MITSUBA CORP [JP]  
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**EP 01972569 A 20010928**; AU 9228901 A 20010928; CN 01816321 A 20010928; JP 0108519 W 20010928; JP 2002530526 A 20010928