



a Hydratight® brand

Digital Turbine Engine Turning Tool (Electric)



The Sweeney Digital Turnover Tool (DTT) provides a safe, controlled, cost effective way to rotate turbine engines during borescope inspection.

The DTT provides greater efficiency than manual turnover by eliminating the need for a second technician to rotate the engine shaft. The DTT also provides a constant rotation speed, overshoot-free operation and automatic blade counting, all of which are unattainable with manual turnover.

There are three major components to the DTT system: the controller, the power unit, and the drive unit. All engine inspection functions reside on the controller, with a second user interface housed on the power unit. A handy carrying case contains all components with cables attached, allowing quick set-up.

Features & benefits

- Borescope operator can control turbine rotation, reducing inspection time
- Automatic blade counting
- Flag blades for quick return to review
- Adjustable torque limit to 150 ft-lbs (203 Nm)—the most torque available from any turnover tool
- Most commercial and military engines loaded in engine library
- Motor is designed to fit all previous versions of Sweeney engine interface adapters
- Automatic / manual modes
- Variable speed and pause interval USB port on controller allows connectivity to laptops to download inspection reports for storage or print
- Pendant is light and easy to use; shaped to fit in one hand or hung nearby
- Torque overload sensor shuts down operation if excessive torque occurs, which can protect expensive components from damage
- Foot control for hands-free operation

Specifications

Total system weight	35 lbs (15.9 kg)
System container dimensions	10" x 18" x 24" (254 x 457 x 610mm)
Power input	85–260 Vac 47–440 Hz 200 W maximum
Speed	Continuously variable from 20 degrees/min to 360 degrees/min
Direction	Bi-directional with backlash compensation adjustable by user
Torque	User selectable 30–150 ft-lbs (40.67–203 Nm)
Acceleration/ deceleration	0.2 s minimum, 5 s maximum incrementally adjustable

Pneumatic version also available



DTT installed on a gear box



DTT pendant



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Engine Name	Location	Adapter	Shaft	Extra Equipment
Allison				
AE2100	Accessory Gearbox	18987-40		18987-45
AE2100	Prop Gearbox	18987-10		18987-45
BMW Rolls-Royce				
BR710	Breather Shaft Pad	18981-40	18981-10	
BR715	Breather Shaft Pad	18981-40	18981-10	
CFMI				
CFM56-2	Manual Drive Pad	18926-50	18926-41	
CFM56-3	Manual Drive Pad	18935-40		
CFM56-3	Manual Drive Pad	18933-40	948514	
CFM56-5	Manual Drive Pad	18941-40		
CFM56-5	Starter Drive Pad	18947-40	18947-10	
CFM56-5A	Manual Drive Pad	18941-40		
CFM56-5A	Starter Drive Pad	18947-40	18947-10	
CFM56-5B	Manual Drive Pad	18941-40		
CFM56-5B	Starter Drive Pad	18947-40	18947-10	
CFM56-5C	Manual Drive Pad	18941-40		
CFM56-5C	Starter Drive Pad	18947-40	18947-10	
CFM56-7	Accessory Gearbox	18972-50		
General Electric				
CF6-50	Manual Drive Pad	18910-40	18910-10	
CF6-6	Manual Drive Pad	18910-40	18910-10	
CF6-80A	Starter Drive Pad	18929-40	18929-10	
CF6-80A1	Manual Drive Pad	18910-40	18910-10	
CF6-80A3	Manual Drive Pad	18910-40	18910-10	
CF6-80C	Manual Drive Pad	18946-50	18946-10	18946-10
CF6-80C2	Manual Drive Pad	18946-50	18946-10	18946-10
CF6-80C2-300KVA	Manual Drive Pad	18986-40	18946-10	18946-10
CF6-80E1	Manual Drive Pad	18951-40	18946-10	18946-10
F110-100	Power Take-Off Coupling	18973-40	948505	18973-50
GE90	Manual Drive Pad	18946-40	18946-10	18946-10
LM1600	Manual Drive Pad	18937-40	18937-15	
LM2500	Accessory Gear Housing (FWD)	18937-40	18918-10	
LM2500	Fuel Pump Pad	18917-600	18917-650	
LM2500	Manual Drive Pad (AFT)	18937-40	18937-10	
LM2500+	Accessory Gear Housing (FWD)	18937-40	18918-10	
LM2500+	Fuel Pump Pad	18917-600	18917-650	
LM2500+	Manual Drive Pad (AFT)	18937-40	18937-10	
LM5000	Accessory Gear Housing (FWD)	18937-40	18918-10	
LM5000	Fuel Pump Pad	18917-600	18917-650	
LM5000	Manual Drive Pad (AFT)	18937-40	18937-10	
LM6000	Accessory Gear Housing (FWD)	18937-40	18937-10	
LM6000	Fuel Pump Pad	18917-600	18917-650	
LM6000	Manual Drive Pad (AFT)	18937-40	18937-10	18937-40
TF39	Transfer Gearbox	18985-40	18985-10	

Engine Name	Location	Adapter	Shaft	Extra Equipment
IAE				
V2500-A1	Manual Drive Pad	18938-40		
V2500-A5	Manual Drive Pad	18938-40		
V2500-D5	Manual Drive Pad	18949-40		
Pratt & Whitney				
F100	Power Take-Off Coupling	18970-40		18970-50
F117	Crank Drive at Hydraulic Pump Pad	18945-40	18945-15	
JT3D	Hydraulic Pump Pad	18904-40	18904-10	
JT3D	Starter Drive Pad	18904-40	18904-10	
JT8D	Hydraulic Pump Pad	18904-40	18904-10	
JT8D	Starter Drive Pad	18904-40	18904-10	
JT9D-3	Allied Signal Starter Drive Pad	18983-40	18983-15	
JT9D-3	Hamilton Standard Starter Drive Pad	18983-50	18983-15	
JT9D-7	Allied Signal Starter Drive Pad	18983-40	18983-15	
JT9D-7	Hamilton Standard Starter Drive Pad	18983-50	18983-15	
JT9D-7Q	Allied Signal Starter Drive Pad	18983-40	18983-15	
JT9D-7Q	Hamilton Standard Starter Drive Pad	18983-50	18983-15	
JT9D-7R4D	Hydraulic Pump Pad	18903-40	948590	
JT9D-7R4D1	Generator Drive Pad	18903-40	948505	949024
JT9D-7R4E1	Generator Drive Pad	18903-40	948505	949024
JT9D-7R4G2	Allied Signal Starter Drive Pad	18983-40	18983-15	
JT9D-7R4G2	Hamilton Standard Starter Drive Pad	18983-50	18983-15	
JT9D-7R4H1	Generator Drive Pad	18903-40	948505	949024
PW2000	Hamilton Standard Starter Drive Pad	18984-40	18984-10	
PW2000	Manual Drive Pad	18965-40		
PW2000	Manual Drive Pad	18939-40	949016	
PW4000	Allied Signal Starter Drive Pad	18983-40	18983-15	
PW4000	Hamilton Standard Starter Drive Pad	18983-50	18983-15	
PW4000	Manual Drive Pad	18934-50		
Rolls-Royce				
RB211-22B	Manual Drive Pad	18950-40	18967-10	
RB211-524	Manual Drive Pad	18950-40	18967-10	
RB211-524MOD	Manual Drive Pad	18950-40	18967-10	
RB211-535	Manual Drive Pad	18950-40	18966-10	
RB211-Trent 800	Breather Shaft Pad	18950-40	18950-10	
RB211-Trent 700	Breather Shaft Pad	18950-40	18950-10	

Further details can be obtained from your local Hydratight representative or via the website hydratight.com.