

03-12-2003

COVER SHEET

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To the Honorable Commissioner of Patents

attached original documents or copy thereof.

1. Name of conveying party(ies):

Moog Inc.

Additional name(s) of conveying party(ies) attached? Yes No

3. Nature of conveyance:

- Assignment Merger
- Security Agreement Change of Name
- Other _____

Execution Date: March 3, 2003

102387614
3-11-03

2. Name and address of receiving party(ies):

Name: HSBC Bank USA, as agent

Internal Address: _____

Street Address: One HSBC Center

City: Buffalo State: NY ZIP: 14203

Additional name(s) & address(es) attached? Yes No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No.(s)

See Attached

B. Patent No.(s)

See Attached

Additional numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Annabelle V. Irey

Internal Address: Phillips, Lytle, Hitchcock,

Blaine & Huber LLP

Street Address: 3400 HSBC Center

City: Buffalo State: NY ZIP: 14203

6. Total number of applications and patents involved: 82

7. Total fee (37 CFR 3.41):..... \$3,280.00

Enclosed

Authorized to be charged to deposit account

8. Deposit account number:

(Attach duplicate copy of this page if paying by deposit account)

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Annabelle V. Irey

Name of Person Signing

Annabelle V. Irey

Signature

March 3, 2003

Date

Total number of pages of this cover sheet: 82

REEL: 013782 FRAME: 0738

Schedule A

**PATENTS ISSUED OR ASSIGNED TO MOOG INC.
BY U.S. PATENT AND TRADEMARK OFFICE**

<u>Title</u>	<u>Jur</u>	<u>Filed</u>	<u>Patent No.</u>	<u>Issued</u>	<u>Expires</u>	<u>Inventor(s)</u>
Adjustable Hydrostatic Pump with Additional Pressure Change Control Unit	US	01/20/1996	5,980,215	11/09/1999	01/20/2016	Robeller, Leutner, Bertsch and Gaumnitz; acquired from Bosch GmbH
Adjustable Hydrostatic Radial Piston Motor	US	02/24/1996	5,752,427	05/19/1998	09/25/2016	Leutner; acquired from Bosch GmbH
Adjustable Radial Piston Machine	US	12/30/1997	5,878,648	03/09/1999	12/30/2017	Dworak
Arcade Ride Motion Simulator System (MD-146-1)	US US	04/10/1995 11/05/1993	5,533,933	07/09/1996	11/05/2013	Garnjost and Stegner
Ball Latch Mechanism	US	04/29/1993	5,428,873	07/04/1995	04/29/2013	Hitchcock, Conrad and Pearson (assigned to BW/IP Intern'l Inc.; assigned to E-Systems Inc.; assigned to Raytheon Aircraft Montek Co.
Ball Screw Actuator Locking Mechanism (MD-237)	US	02/07/2001	6,467,363	10/22/2002	02/07/2021	Manzanares and Lee
Compound Planetary Gear Assembly	US	09/04/1987	4,825,723	05/02/1989	09/04/2007	Martin. Assigned from AlliedSignal to Moog
Device for Providing a Uniformly-Variable Annular Orifice (MD-177)	US	03/04/1996	5,785,300	07/28/1998	03/04/2016	Toews and vanOss
Direct Drive Rotary Servo Valve	US	08/31/1987	4,794,845	01/03/1989	08/31/2007	Vick. Assigned from AlliedSignal
Direct Drive Servo Valve	US US	08/24/1987 08/18/1986	4,793,377	12/27/1988	08/18/2006	Haynes and Lucas. Assigned from E-Systems to Raytheon E-Systems to Raytheon Aircraft Montek Co.
Drive Arrangement for a Molding Machine	US	11/01/1990	5,266,874	11/30/1993	11/30/2010	Stillhard. Assigned from Vickers Inc. to Moog
Driven Hinge with Automatic Driver-Operated Lock (MD-179)	US	11/09/1998	6,032,418	03/07/2000	11/09/2018	Larson
Dual Concentric Poppet Valves for Maintaining Substantially Constant the Ratio of Two Fluid Flows Over an Operating Range of Valve Opening (MD-147)	US	12/21/1994	5,839,272	11/24/1998	11/24/2015	Toews
Electro-Mechanical Actuator	US US	07/17/1985 09/23/1983	4,641,072	02/03/1987	02/03/2004	Cummins
Electro-Mechanical Actuator	US	03/06/1992	Re.34,870	02/03/1987	03/06/2012	Miller

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Electronic Device for Controlling the Tool Position of a Machine Tool	US	02/04/1988	4,918,612	04/17/1990	02/04/2008	Handte
Energy-Conserving Servomechanisms (a/k/a "Energy-Conserving Regenerative-Flow Valves for Hydraulic Servomotors")	US	01/31/1986	4,840,111	06/20/1989	06/20/2006	Garnjost
Fail-Fixed Servovalve with Controlled Hard-Over Leakage	US	08/09/1988	4,827,981	05/09/1989	01/25/2008	Livecchi and Peters
Fail-Safe Ride Simulator (MD-137)	US	12/27/1993	5,931,739	08/03/1999	08/03/2016	Layer, Gazewich and Hall
Floating Seal Arrangement	US	06/28/1990	5,015,000	05/14/1991	06/28/2010	Perini, assigned from Moog Controls to Moog
Fluid Flow Regulator	US	02/06/1991	5,099,875	03/31/1992	02/06/2011	Smietana
Fluid Intensifier (MD-164)	US	04/24/1995	5,484,269	01/16/1996	04/24/2015	Vick
High Frequency Response Servovalve with Electrical Position Feedback Element Structure and Method	US	11/05/1987	4,907,615	03/13/1990	11/05/2007	Mayer and Kachman. Acquired from Schenck Pegasus Corp.
High-Flow Direct-Drive Rotary Servovalve (MD-165)	US US	11/08/1995 05/22/1995	5,597,014	01/28/1997	05/22/2015	Vick
High-Pressure Pilot-Operated Valve	US	09/30/1985	4,644,971	02/24/1987	09/30/2005	Vick. Assigned from AlliedSignal
Hot Gas Control Valve (MD-148)	US	08/14/1996	5,711,348	01/27/1998	08/14/2016	Morash and Toews
Hydraulic Actuator Having Frangible or Deformable Components	US	11/02/1989	5,014,603	05/14/1991	11/02/2009	Navarette and Mashita. Assigned from AlliedSignal
Hydraulic Amplifiers with Reduced Leakage at Null (MD-144)	US	03/23/1994	5,443,089	08/22/1995	03/23/2014	Haumann
Hydraulic Logic Cross-Coupling Between Physically-Separate Redundant Servoactuators (MD-202-CIP)	US US	12/13/2000 02/04/1999	6,446,432	09/10/2002	02/04/2019	Flavell
Hydraulic Servo Valve with Controlled Disengagement Feature	US	05/01/1992	5,197,516	03/30/1993	05/01/2012	Smietana. Assigned from Moog Controls
Hydraulic Valve	US	05/08/1992	5,222,521	06/29/1993	05/08/2012	Kihlberg. Assigned from Moog Controls
Injection Molding Machine with an Electric Drive	US US	08/21/1995 01/07/1995	5,792,483	08/11/1998	01/07/2015	Siegrist, Stillhard and Blochlinger. Assigned from Vickers, Inc.
Joint Assembly for Power and-Signal Coupling Between Relatively Rotatable Structures	US	06/30/1991	5,210,378	05/11/1993	06/30/2011	Tusques. Assigned from Schaeffer Magnetics, Inc.
Joint Assembly for Power and Signal Coupling Between Relatively Rotatable Structures	US US	05/11/1993 06/30/1991	5,384,431	01/24/1995	01/24/2012	Tusques. Assigned from Schaeffer Magnetics, Inc.

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Linear Force Motor	US	06/17/1985	4,631,430	12/23/1986	06/17/2005	Aubrecht
Linear Hydraulic Actuator Having Ballistic Tolerants	US	11/05/1984	4,608,912	09/02/1986	11/05/2004	Navarette. Assigned from AlliedSignal
Magnetically Centering Torque Motor (MD-230)	US	08/14/2000	6,424,070	07/23/2002	08/14/2020	Spano
Mandrel-Moving Control Circuit, and Method	US	05/26/1989	5,130,630	07/14/1992	07/14/2009	Handte
Mechanical Module with Variable Characteristic Set by the Act of Installation (MD-228)	US	09/06/2000	6,471,028	10/29/2002	09/06/2020	Larson
Method and Apparatus for Actively Adjusting and Controlling a Resonant Mass-Spring System (MD-126)	US	04/23/1993	5,456,341	10/10/1995	04/23/2013	Garnjost, Rauch and Rey
Method and Apparatus for Actively Adjusting and Controlling a Resonant Mass-Spring System (MD-126-1)	US US	05/25/1995 04/23/1993	5,620,068	04/15/1997	04/15/2014	Garnjost, Rauch and Rey
Method and Apparatus for Cancellation of Rotational Unbalance (MD-128)	US	03/08/1993	5,347,884	09/20/1994	03/08/2013	Garnjost and Rey
Method and Apparatus for Controlling and Positioning Fluid Actuator	US	07/08/1987	4,763,560	08/16/1988	07/08/2007	Kasaki. Acquired from Toyko Precision Instruments Co. Ltd.
Method and Apparatus for Selectively Enabling Bi-Directional Communication Only Between a Dedicated Pair of Transceivers (MD-115)	US	10/23/1992	5,392,454	02/21/1995	10/23/2012	Kowal, Miess, Szczepanski, McNerney and Morgante
Method and Apparatus for Starting a Gas-Turbine Engine (MD-213)	US	07/08/1999	6,182,438	02/06/2001	07/08/2019	Weber
Method of Applying Hard-Facing Material to a Substrate	US US	02/22/2001 04/25/1998	6,436,470	08/20/2002	04/25/2018	Iacocca, German, Lal, Sivaraman (Penn State)
Method of Controlling the Application of Counter-Vibration to a Structure (MD-125)	US	11/23/1993	5,473,698	12/05/1995	11/23/2013	Garnjost and Rey
Method of Operating a PWM Solenoid Valve	US	10/17/1986	4,766,921	08/30/1988	10/17/2006	Williams
Modular Vibratory Force Generator, and Method of Operating Same (MD-142-1)	US US	02/19/1998 09/21/1995	5,903,077	05/11/1999	09/21/2015	Garnjost and Rey
Multi-Fuseable Shaft	US	02/13/1989	4,971,267	11/20/1990	02/13/2009	Fulton and Walborn. Assigned from AlliedSignal
Multi-Path Valve Structure Having Extended Life	US	12/01/1977	4,183,375	01/15/1980	12/01/1997	Vick. Assigned from AlliedSignal
Non-Jamming Rotary Mechanical Actuator	US	09/22/1987	4,856,379	08/15/1989	09/22/2007	Jafarey. Assigned from AlliedSignal

<u>Title</u>	<u>Jur</u>	<u>Filed</u>	<u>Patent No.</u>	<u>Issued</u>	<u>Expires</u>	<u>Inventor(s)</u>
Pivot Clip for a Ski Binding	US	08/28/1978	4,192,527	03/11/1980	08/28/1998	Replogle
Pneumatic Control Valve	US	06/15/2000	5,133,380	07/28/1992	06/15/2020	Jamieson, Mayer, Kachman and Green. Acquired from Schenck Pegasus Corp.
Position Sensor for Latching Solenoid Valve (MD-233)	US	05/18/2000	6,351,199	02/26/2002	05/18/2020	Perini
Pressure Equalization of Multiple Valves	US	05/06/1982	4,567,813	02/04/1986	02/04/2003	Garnjost
Pulse-Width-Modulated Solenoid Valve	US	11/13/1986	4,746,094	05/24/1988	11/13/2006	Cummins
Pulse-Width-Modulated Solenoid Valve	US US	09/09/1987 11/13/1986	4,765,587	08/23/1988	11/13/2006	Cummins
Single-Motor Injection-and-Screw Drive Hybrid Actuator (MD-253)	US	08/29/2001	6,477,835	11/12/2002	08/29/2021	Geiger
Solenoid Flow Control Valve and Frictionless Plunger Assembly	US	06/26/1992	5,374,029	12/20/1994	06/26/2012	Bailey. Assigned from PerkinElmer Inc.
Spool Position Indicator	US	12/18/1991	5,244,002	09/14/1993	12/18/2011	Frederick. Assigned from Moog Controls
Synthesized Flow-Control Servo Valve	US US	03/13/1992 12/03/1990	5,240,041	08/31/1993	12/03/2010	Garnjost
Tilting Mechanism (MD-200)	US	10/08/1998	6,244,190	06/12/2001	10/08/2018	Sembtner and Stehlin
Torque Motor (MD-123)	US	09/17/1993	5,473,298	12/05/1995	09/17/2013	Teutsch
Transducer Clamp	US	01/20/1988	4,767,956	08/30/1988	01/20/2008	Cimato
Two-Axis Force Motor	US	10/20/1987	4,796,664	01/10/1989	03/25/2007	Toews
Two-Stage Servo Valve with Compensation Circuit to Accommodate "Dead Zone" Due to Overlapped Spool Lobes	US	08/23/1991	5,165,448	11/24/1992	08/23/2011	Handte
Vane-Type Thrust Vectoring Nozzle (a/k/a "Vane-Type Nozzle(s) for Varying the Magnitude and Direction of a Thrust Vector, and Method of Operating Same")	US	03/20/1990	5,110,047	05/05/1992	08/21/2009	Toews
Volume-Compensated Low-Wear Reciprocating Seal Assemblies (MD-140)	US	09/17/1993	5,410,947	05/02/1995	09/17/2013	Garnjost

**PATENT APPLICATIONS
IN THE NAME OF MOOG INC.
PENDING WITH U.S. PATENT & TRADEMARK OFFICE**

<u>Title</u>	<u>Inventor(s)</u>	<u>Filing Date</u>	<u>Serial No.</u>
Contaminant Fluid Sensor	M. Baker	7/20/01	09/910,598
Servoactuator having Motor-Driven Actuator with Hydraulic Force Amplification	Geiger, Czeppel	12/12/02	10/318,368
Contaminant Monitor #2	M. Baker	7/22/02	10/200,841
Safety Pitch Control for Windturbines	Gören Nord	1/4/02	10/037,408
Space Vehicle Integrated Satellite Propulsion System	D. Morash, B. Reinicke	3/19/02	10/100/780
Force Limiter	Seth Gitnes; K.K.Nakashima; Eric Polcuch; Bill House	10/8/02	10/266,710
Self-Contained Hydraulic Snubber	Luke Finley	6/28/02	10/184,700
Compound Differential Planetary Gear Assembly, (formerly "Improved Power Hinge Actuator with Extended Planet Gears and Multiple Ring Gears"	Lowell Larson	9/13/02	10/244,720
Force Limiter	Seth Gitnes; K.K.Nakashima; Eric Polcuch; Bill Hous	10/8/02	10/266,710
Self-Contained Hydraulic Snubber	Luke Finley	6/28/02	10/184,700

<u>Title</u>	<u>Inventor(s)</u>	<u>Filing Date</u>	<u>Serial No.</u>
Compound Differential Planetary Gear Assembly, (formerly "Improved Power Hinge Actuator with Extended Planet Gears and Multiple Ring Gears")	Lowell Larson	9/13/02	10/244,720
Quick Return Electro-Mechanical Actuator (formerly Anti-Terrorist Cockpit Door Lock Solenoid)	Archimedes Gorospe, David Penrod, Glen Hawkins	10/21/02	10/274,558


SNRga
 BFLO Doc # 1270232.2

NOTICE OF SECURITY INTEREST

Notice is hereby given that **MOOG INC.**, a New York business corporation, with its chief executive office at Jamison Road and Seneca Street, East Aurora, New York 14052-0018 ("Debtor") has granted a security interest to **HSBC BANK USA**, with an office at One HSBC Center, Lobby Level, Buffalo, New York 14203, as agent for the benefit of certain lenders and for its benefit as agent ("Secured Party") in and to all of the patents listed on Schedule A and the applications and registrations associated therewith, pursuant to an agreement between Debtor and the Secured Party dated of even date herewith and as the same may be amended or supplemented from time to time.


Dated: As of March 3, 2003

MOOG INC.

By: 
Timothy P. Balkin, Treasurer

STATE OF NEW YORK)
)SS.:
COUNTY OF ERIE)

On the third day of March in the year 2003, before me, the undersigned, personally appeared **Timothy P. Balkin**, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.



Notary Public

SNRga
BFLO Doc # 1270232.2

SAKINA N. RIDDELL
Notary Public, State of New York
Qualified in Erie County
My Commission Expires 06/25/2003

Schedule A

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Method and Apparatus for Selectively Enabling Bi-Directional Communication Only Between a Dedicated Pair of Transceivers (MD-115)	US	10/23/1992	5,392,454	02/21/1995	10/23/2012	Kowal, Miess, Szczepanski, McNerney and Morgante
Method and Apparatus for Starting a Gas-Turbine Engine (MD-213)	US	07/08/1999	6,182,438	02/06/2001	07/08/2019	Weber
Method of Applying Hard-Facing Material to a Substrate	US US	02/22/2001 04/25/1998	6,436,470	08/20/2002	04/25/2018	Iacocca, German, Lal, Sivaraman (Penn State)
Method of Controlling the Application of Counter-Vibration to a Structure (MD-125)	US	11/23/1993	5,473,698	12/05/1995	11/23/2013	Garnjost and Rey
Method of Operating a PWM Solenoid Valve	US	10/17/1986	4,766,921	08/30/1988	10/17/2006	Williams
Modular Vibratory Force Generator, and Method of Operating Same (MD-142-1)	US US	02/19/1998 09/21/1995	5,903,077	05/11/1999	09/21/2015	Garnjost and Rey
Multi-Fuseable Shaft	US	02/13/1989	4,971,267	11/20/1990	02/13/2009	Fulton and Walborn. Assigned from AlliedSignal
Multi-Path Valve Structure Having Extended Life	US	12/01/1977	4,183,375	01/15/1980	12/01/1997	Vick. Assigned from AlliedSignal
Non-Jamming Rotary Mechanical Actuator	US	09/22/1987	4,856,379	08/15/1989	09/22/2007	Jafarey. Assigned from AlliedSignal

<u>Title</u>	<u>Jur</u>	<u>Filed</u>	<u>Patent No.</u>	<u>Issued</u>	<u>Expires</u>	<u>Inventor(s)</u>
Pivot Clip for a Ski Binding	US	08/28/1978	4,192,527	03/11/1980	08/28/1998	Replegle
Pneumatic Control Valve	US	06/15/2000	5,133,380	07/28/1992	06/15/2020	Jamieson, Mayer, Kachman and Green. Acquired from Schenck Pegasus Corp.
Position Sensor for Latching Solenoid Valve (MD-233)	US	05/18/2000	6,351,199	02/26/2002	05/18/2020	Perini
Pressure Equalization of Multiple Valves	US	05/06/1982	4,567,813	02/04/1986	02/04/2003	Garnjost
Pulse-Width-Modulated Solenoid Valve	US	11/13/1986	4,746,094	05/24/1988	11/13/2006	Cummins
Pulse-Width-Modulated Solenoid Valve	US US	09/09/1987 11/13/1986	4,765,587	08/23/1988	11/13/2006	Cummins
Single-Motor Injection-and-Screw Drive Hybrid Actuator (MD-253)	US	08/29/2001	6,477,835	11/12/2002	08/29/2021	Geiger
Solenoid Flow Control Valve and Frictionless Plunger Assembly	US	06/26/1992	5,374,029	12/20/1994	06/26/2012	Bailey. Assigned from PerkinElmer Inc.
Spool Position Indicator	US	12/18/1991	5,244,002	09/14/1993	12/18/2011	Frederick. Assigned from Moog Controls
Synthesized Flow-Control Servo Valve	US US	03/13/1992 12/03/1990	5,240,041	08/31/1993	12/03/2010	Garnjost
Tilting Mechanism (MD-200)	US	10/08/1998	6,244,190	06/12/2001	10/08/2018	Sembtner and Stehlin
Torque Motor (MD-123)	US	09/17/1993	5,473,298	12/05/1995	09/17/2013	Teutsch
Transducer Clamp	US	01/20/1988	4,767,956	08/30/1988	01/20/2008	Cimato
Two-Axis Force Motor	US	10/20/1987	4,796,664	01/10/1989	03/25/2007	Toews
Two-Stage Servo Valve with Compensation Circuit to Accommodate "Dead Zone" Due to Overlapped Spool Lobes	US	08/23/1991	5,165,448	11/24/1992	08/23/2011	Handte
Vane-Type Thrust Vectoring Nozzle (a/k/a "Vane-Type Nozzle(s) for Varying the Magnitude and Direction of a Thrust Vector, and Method of Operating Same")	US	03/20/1990	5,110,047	05/05/1992	08/21/2009	Toews
Volume-Compensated Low-Wear Reciprocating Seal Assemblies (MD-140)	US	09/17/1993	5,410,947	05/02/1995	09/17/2013	Garnjost

**PATENT APPLICATIONS
IN THE NAME OF MOOG INC.
PENDING WITH U.S. PATENT & TRADEMARK OFFICE**

<u>Title</u>	<u>Inventor(s)</u>	<u>Filing Date</u>	<u>Serial No.</u>
Contaminant Fluid Sensor	M. Baker	7/20/01	09/910,598
Servoactuator having Motor-Driven Actuator with Hydraulic Force Amplification	Geiger, Czeppel	12/12/02	10/318,368
Contaminant Monitor #2	M. Baker	7/22/02	10/200,841
Safety Pitch Control for Windturbines	Gören Nord	1/4/02	10/037,408
Space Vehicle Integrated Satellite Propulsion System	D. Morash, B. Reinicke	3/19/02	10/100/780
Force Limiter	Seth Gitnes; K.K.Nakashima; Eric Polcuch; Bill House	10/8/02	10/266,710
Self-Contained Hydraulic Snubber	Luke Finley	6/28/02	10/184,700
Compound Differential Planetary Gear Assembly, (formerly "Improved Power Hinge Actuator with Extended Planet Gears and Multiple Ring Gears"	Lowell Larson	9/13/02	10/244,720
Force Limiter	Seth Gitnes; K.K.Nakashima; Eric Polcuch; Bill Hous	10/8/02	10/266,710
Self-Contained Hydraulic Snubber	Luke Finley	6/28/02	10/184,700

<u>Title</u>	<u>Inventor(s)</u>	<u>Filing Date</u>	<u>Serial No.</u>
Compound Differential Planetary Gear Assembly, (formerly "Improved Power Hinge Actuator with Extended Planet Gears and Multiple Ring Gears")	Lowell Larson	9/13/02	10/244,720
Quick Return Electro-Mechanical Actuator (formerly Anti-Terrorist Cockpit Door Lock Solenoid)	Archimedes Gorospe, David Penrod, Glen Hawkins	10/21/02	10/274,558

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