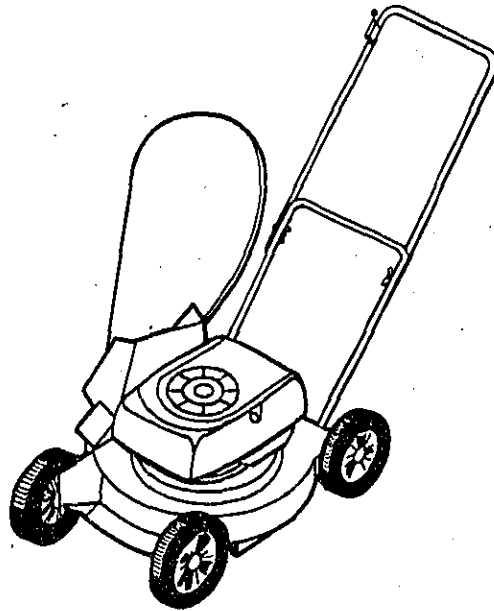


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bq Buy Quiet

PRODUCT INFORMATION
SUPPLEMENT NO. 1
PRODUCT NOISE
INFORMATION SERIES
MAY 1980
UPDATED OCTOBER 1981

**INFORMATION ON NOISE LEVELS, NOISE MEASUREMENT
METHODS AND "BUY QUIET" EXPERIENCES ASSOCIATED
WITH ROTARY POWER LAWNMOWERS**



**AN INFORMATION SUPPLEMENT FOR GOVERNMENTAL
PURCHASING AGENTS IN DEVELOPING "BUY QUIET" PROGRAMS**

THE NATIONAL INSTITUTE
OF
GOVERNMENTAL PURCHASING
1735 JEFFERSON DAVIS HWY.
ARLINGTON, VA 22202

PREFACE

This supplement is intended to help government purchasing agents and other officials purchase quieter power lawnmowers. It contains quiet lawnmower purchase specifications which were developed at a government-industry conference hosted by The National Institute of Governmental Purchasing in April, 1980. This conference was the first in a series of such specification development conferences that NIGP is conducting on different products.

This supplement is a companion document to the Guide to Purchasing Quieter Products and Services¹ which describes in general terms how noise considerations can be incorporated into purchasing decisions. Together, these documents and others available through the Quiet Product Data Bank maintained by NIGP can help you develop a "Buy Quiet" Program for your government.

1. Issued by NIGP, May 1980

CONTENTS

Introduction

Section 1. Description of the Product

Section 2. Quiet Lawnmower Purchase Specifications and Other Related
Information

Appendices

- A. List of Manufacturers
- B. Buy Quiet Experience
- C. Sources of Additional Information

INTRODUCTION

The "Buy Quiet" Program is a new concept in which governments cooperate with each other to buy quiet models of equipment. It is being extended with the help of the National Institute of Governmental Purchasing, the National League of Cities, other national organizations and various local and state agencies. This type of local noise control:

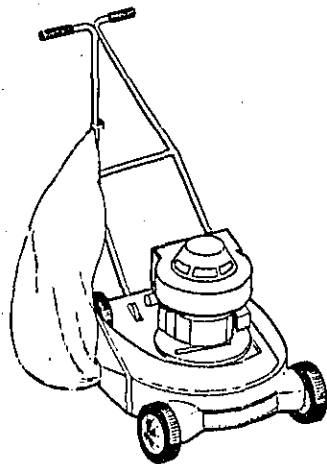
- . costs very little;
- . requires little additional effort;
- . begins the community quieting process;
- . establishes market pressures;

Surveys have shown that noise is the most frequently identified undesirable neighborhood condition in urban areas. Scientists and the medical profession now tell us that noise is no longer a mere irritant, but that in fact it has a very adverse impact on our health and well being. You as a purchasing officer can reduce noise in your community by purchasing quieter products. State and local governments and large private organizations spend billions of dollars each year on equipment such as compactors, chain saws, typewriters, lawnmowers, trucks, motorcycles, pneumatic drills, and buses. If these governments can become more selective so as to purchase quieter products, cities and neighborhoods will be quieter.

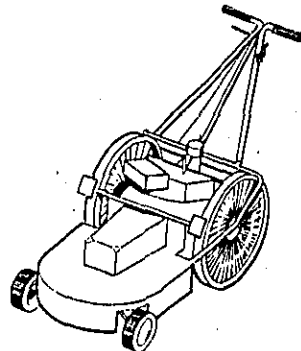
Section 1. Description of the Product

The quiet lawnmower specifications in Section 2 classify rotary lawnmowers as follows:

- 1) intermediate duty lawnmowers -
 - for use on regular or improved lawns
- 2) heavy duty lawnmowers -
 - for commercial or industrial duty
- 3) heavy duty lawnmowers (high wheeler) -
 - for commercial or industrial duty



WALK BEHIND ROTARY



HIGH WHEEL ROTARY

Figure 1. Typical Rotary Mowers

Section 1. Description of the Product-continued

The rotary type of gasoline-powered lawn mowers started to become popular around 20 years ago. The rotary mechanism consists of a two-arm blade rotating about a vertical axis. The blade relies on its speed to cut grass, requiring a tip speed of between 16,000 and 19,000 feet per minute (fpm) to give a good cut. The sharpness of the blade has little to do with the actual cutting process, this being determined primarily by the blade speed, but sharpness does determine whether the ends of the grass blades become bruised or split. Because of their high speed, the blades on rotary mowers tend to be quite noisy.

Several modifications of the basic rotary mower are now on the market. Designers found that cutting quality was improved by putting lift on the blade by shaping it like an airfoil, so that the grass blades are sucked up before they are cut. This lift can also be used to pick up the grass clippings and throw them into a catcher bag. Other mowers retain grass clippings within the housing and chop them into mulch. In addition, some walk-behind mowers offer a self-propelled feature.

Lawn mowers are sized according to both installed engine horsepower and cutting width.

Section 2. Quiet Lawnmower Purchase Specifications and Other Related Information

Definitions of Terms

NOISE: Any undesired sound.

SOUND LEVEL METER: An instrument, consisting of a microphone, an amplifier, an output meter, and frequency-weighted networks, that is used for the measurement of sound levels in a specified manner.

DECIBEL: The intensity of a sound often abbreviated dB. The decibel scale was devised to measure the smallest difference in sound which is detectable by the human ear. Its graduations move up not in a simple arithmetic progression but in a multiple progression based on logarithmic calculations. This means that each increase of one decibel represents a much larger change of intensity than might be expected. Because of the logarithmic progression of the decibel scale, an increase of ten decibels, for example, reflects a ten-fold increase in sound energy, but is perceived as being approximately twice as loud. Thus a sound which is measured at 80 dB contains ten times the sound output and is perceived as being twice as loud as a sound that is measured at 70 dB.

dba: An expression of sound level taking into account the response of the human ear to sound.

Section 2. Quieter Lawnmower Purchase Specifications and Other Related Information-continued

The National Institute of Governmental Purchasing (NIGP) has developed three quiet lawnmower specifications which can be used by buyers for quantity purchasing. Specifications covering "heavy duty" and "intermediate duty" lawnmowers follow. The specification for "heavy duty (high wheeler)" lawnmowers is available separately through NIGP. The specifications contain two salient elements to achieve quiet:

- (1) A maximum acceptable noise level of 86dBA for lawnmowers in each of the classifications ("Intermediate Duty", "Heavy Duty" and "Heavy Duty (High Wheeler)". The known range of currently available models is 80dBA to 92dBA.
- (2) An optional price incentive mechanism that allows governments to buy mowers that are quieter than 86dBA. In essence, governments determine how much additional "quiet" is worth to them; then through the use of a formula reflecting this judgement, they evaluate their bid prices accordingly. The lowest evaluated bid price wins the award.

Specification
for
Intermediate Duty
Quieter Lawn Mowers

NIGP Purchase Description
Intermediate Duty Lawn Mowers
FSC 3750
May 1, 1980

This purchase description has been prepared by the National Institute of Governmental Purchasing, Washington, DC in coordination with the Environmental Protection Agency and the Federal Supply Service/ General Services Administration, for use by Governmental Purchasing Activities.

1. SCOPE AND CLASSIFICATION:

1.1 SCOPE: This purchase description covers lawn mowers for use on regular or improved lawns.

1.2 CLASSIFICATION: Rotary type, hand propelled, walk behind for normal or intermediate duty. FSC 3750.

2. APPLICABLE PUBLICATIONS:

2.1 A.N.S.I. B71.1, "Safety Specification for Power Lawn Mowers".

2.2 S.A.E. J1174, "Operator Ear Sound Level Measurement Procedure for Small Engine Powered Equipment".

2.3 S.A.E. J607, "Small Stock Two-Stroke and Four-Stroke Cycle Gasoline Engine Test Code".

2.4 Consumer Product Safety Commission (C.P.S.C.), "Safety Standard for Walk-Behind Power Lawn Mowers" (6355-01-M) Title 16-"Commercial Practices", Chapter II-C.P.S.C., Part 1205, in Federal Register, Vol. 44, No. 33-Thursdays, February 15, 1979, pp. 990-10037.

3. REQUIREMENTS:

3.1 ENGINE:

3.1.1 Gasoline powered

3.1.2 4-cycle or 2-cycle engine as specified in Invitation for Bids

3.1.3 Minimum 3 rated horsepower per S.A.E. J607 Procedure

3.1.4 Cast block, with or without sleeve

3.1.5 Recoil or electric starter

3.1.6 Minimum acceptable blade tip speed at full throttle-250 feet per second (170.5 miles per hour)

3.2 CUTTING WIDTH: (Nominal)

3.2.1 18 to 19 inch

3.2.2 20 to 21 inch

3.2.3 22 to 24 inch

- 3.3 CUTTING HEIGHT: 1 1/2 to 3 1/4 inch minimum range with at least 3 cutting heights. The height adjusting feature shall be a positive lock type, and shall be so located to permit adjustment without removing wheels.
- 3.4 HOUSING: 10 to 14 gauge stamped steel or cast aluminum. Blade height inside housing shall be measured before and after testing in accordance with paragraph 4.2.5. Permanent deformation shall not exceed 1/8" maximum.
- 3.5 FUEL TANK: Minimum capacity of 1 quart.
- 3.6 WHEELS: All wheels shall be of metal or linear polyethylene construction with semi-pneumatic rubber tires. Minimum diameter of both front and rear wheels shall be 6 inches. Wheel alignment shall be measured before and after testing (see paragraph 4.2.5) to assure no permanent damage has occurred.
- 3.7 CONTROLS: Operator's control shall be conveniently located for ease of operation from operator's position. All controls shall be positive in action, including those on mowers manufactured to meet C.P.S.C. Safety Standard (see paragraph 2.4). For those mowers manufactured prior to December 31, 1981, that do not meet the C.P.S.C. Safety Standard, controls shall remain locked or fixed in set position under all operating conditions.
- 3.8 HANDLES: The mower handle, while attached to the mower and the mower restrained, shall withstand 120 foot pounds of torque applied at the operator's end of the handle. The torque shall be applied five times clockwise and five times counter-clockwise in sequence. The component parts shall not break or deform in a manner that would adversely affect performance or constitute a hazard to the operator.
- 3.9 NOISE LEVEL: Noise level shall not exceed 86 decibels (A Scale) at the operator's ear, measured in accordance with paragraph 2.2.
- 3.10 SAFETY: Mowers shall have either an "Outdoor Power Equipment Institute" (OPEI) label; or meet all applicable requirements of A.N.S.I.-B71.1, (Latest Revision), "Safety Specifications for Power Lawn Mowers"; or meet all applicable requirements of C.P.S.C. Safety Standard, paragraph 2.4.-as specified in the Invitation for Bids.
- 3.11 PERFORMANCE: At full throttle, mower shall cut grass and discharge evenly without excessive wind-rowing.

3.12 WORKMANSHIP: Mowers shall be free from defects such as fractures, splits, punctures, dents, rust deterioration or malformations, sharp edges, burrs, and slivers. Finish shall consist of durable, rust-proof, weather-proof coating.

3.13 WARRANTY: Mowers shall be guaranteed against defects in design, material and workmanship for a period of 1 year from date of receipt at destination, except for the engines which shall be guaranteed against defects in design, material, and workmanship for a period of 90 days.

3.14 INSTRUCTION BOOKS: Supplier shall provided 1 copy of complete instructions for maintenance and operation and 1 copy of a complete replacement parts list for each mower shipped.

3.15 MULCHER: A leaf mulching attachment shall be furnished when so specified in the Invitation to Bid.

4. SAMPLING, INSPECTION AND TEST PROCEDURES:

4.1 SAMPLES: Unless otherwise specified in the Invitation for Bids, no bid samples will be required.

4.2 TESTING:

4.2.1 Testing for noise level shall be in accordance with paragraph 2.2 above.

4.2.2 Verification for noise level and testing of other specification requirements may be performed at the discretion of the contracting activity as indicated in the Invitation for Bids. Such tests shall be performed on bid samples or samples taken from contractor's shipments. In the event products tested fail to meet requirements of this specification, the cost of samples used in testing and the cost of the testing shall be borne by the supplier.

4.2.3 Bidders must certify with each bid that the model being offered has been tested in accordance with paragraph 2.2; and, a copy of the laboratory test report must be included with the certification provided. Retesting for certification of noise level for the same model year shall not be required unless there has been a design change affecting noise level output.

4.2.4 Testing for Performance (paragraph 3.11): Mowers shall cut 5 inch lush grass to a height of 2 inches at approximately 3 miles per hour.

4.2.5 Wheel testing: Mowers shall withstand dropping 10 times from a height of 12 inches onto a concrete floor, landing essentially on all wheels.

5. PREPARATION FOR DELIVERY:

- 5.1 PACKAGING: Mowers shall be packaged in accordance with normal commercial practice and packed to assure acceptance by common carrier and provide product protection against loss and damage during multiple shipments, handling and storage. Shipping containers shall be in compliance with National Motor Freight Classification and Uniform Freight Classification.
- 5.2 MARKING: Each shipping container shall be clearly marked to indicate:
- a. Name of contents
 - b. Quantity
 - c. Contract or Purchase Order Number
 - d. Name and address of manufacturer
 - e. Name and address of consignee

6. NOTES:

- 6.1 DEVIATIONS: Any deviation from this purchase description must be indicated in the Invitation for Bids.
- 6.2 AVAILABILITY OF DOCUMENTS:
- 6.2.1 A.N.S.I. Standards are available from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.
 - 6.2.2 S.A.E. Standards are available from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.
 - 6.2.3 Copies of the C.P.S.C. Standard may be obtained from the Consumer Product Safety Commission, Washington, DC 20207.
- 6.3 OPTIONS: Where various options are available under this purchase description, e.g., cutting widths, the Invitation for Bids will specify the option required.
- 6.4 BID EVALUATION CRITERIA: Attachment "A" to this Purchase Description contains the Technical Evaluation Criteria to be utilized by government purchasing activities in evaluating bids received under Invitations to Bid utilizing this Purchase Description.

COPIES OF THIS PURCHASE DESCRIPTION ARE AVAILABLE FROM:

National Institute of Governmental Purchasing, Inc.
1001 Connecticut Avenue, NW Suite 922
Washington, DC 20036

Attachment "A" to:
NIGP Purchase Description
Intermediate Duty Lawn Mowers
FSC 3750
May 1, 1980

BID EVALUATION CRITERIA

NOISE ABATEMENT:

The purpose of this procurement is to obtain lawn mowers with sound levels below the current industry voluntary standards. Noise levels above 86 dB(A) at the operator's ear shall be cause for rejection of the bid. Sound levels shall be certified in accordance with the requirements of the attached specification.

EVALUATED BID PRICE:

The following formula will be used to determine the evaluated bid price for contract award. It allows the government purchasing activity to reward a bidder for offering a quieter mower. As in Life Cycle Costing, the bidder with the lowest (responsive) actual bid price may not necessarily have the lowest evaluated bid price.

As indicated above, the maximum acceptable noise level is 86 dB(A) at the operator's ear. The purchaser will not pay a contract price more than X% in total above the average of the actual bid prices.¹ This amount represents the maximum additional amount that the government is willing to pay above the average actual bid price, for each quieter mower.

The formula for determining the Evaluated Bid Price (EBP) is:

$$EBP = P - Y\% (P_{AV}) (N_N - N) \text{ where:}$$

EBP = Evaluated Bid Price

P = The Actual Bid Price

Y% = The percentage weight designated by the purchasing activity to "reward" the bidder for each decibel that his mower is quieter than the noisiest mower bid.

P_{AV} = Average (actual) bid price of all mowers bid in response to the IFB

N_N = The noise level (in decibels) of the noisiest product bid in response to the IFB

N = The noise level (in decibels) of the mower whose EBP is being determined

ID-5

¹Not to be confused with the "per decibel" percentage in the formula.

SAMPLE OF RESPONSIVE BID TABULATIONS

BIDDERS:

| | <u>Bidder</u> | <u>Actual Bid Price</u> | <u>Noise Level</u> | <u>Evaluated Bid Price (EBP)</u> |
|-----|---------------|-------------------------|--------------------|----------------------------------|
| (A) | Smith Co. | \$145.00 | 86 | \$145.00 |
| (B) | Robert Co. | \$154.00 | 85 | \$151.02 |
| (C) | Jones Co. | \$147.00 | 82 | \$135.08 |
| (D) | Watkins Co. | \$150.00 | 81 | \$135.10 |

CALCULATION OF EVALUATED BID PRICE:

Assuming that the Purchasing Activity used a 2% "reward" factor for each decibel of increased quietness, the EBP for each bidder would be determined as follows:

(A) Smith Co.
EBP = \$145. - .02(\$149)(86-86)
= \$145. - \$2.98(0)
= \$145.

(B) Roberts Co.
EBP = \$154. - .02(\$149)(86-85)
= \$154. - \$2.98(1)
= \$151.02

(C) Jones Co.
EBP = \$147. - .02(\$149)(86-82)
= \$147. - \$2.98(4)
= \$147. - \$11.92
= \$135.08

(D) Watkins Co.
EBP = \$150. - .02(\$149)(86-81)
= \$150. - \$2.98(5)
= \$150 - \$14.90
= \$135.10

CONTRACT AWARD:

Based on an evaluated bid price (EBP) of \$135.08, award should be made to Jones Co. (Bidder "C") at their actual bid price of \$147.00 per unit for furnishing mowers with a maximum noise level of 82 dB(A).

Specification
for
Heavy Duty
Quieter Lawn Mowers

NIGP Purchase Description
Heavy Duty Lawn Mowers
FSC 3750
May 1, 1980

This purchase description has been prepared by the National Institute of Governmental Purchasing, Washington, DC in coordination with the Environmental Protection Agency and the Federal Supply Service/General Services Administration, for use by Governmental Purchasing Activities

1. SCOPE AND CLASSIFICATION:

- 1.1 SCOPE: This purchase description covers lawn mowers for use in heavy duty mowing operations.
- 1.2 CLASSIFICATION: Rotary type, hand propelled, walk behind for commercial or industrial duty. FSC 3750.

2. APPLICABLE PUBLICATIONS:

- 2.1 A.N.S.I. B71.4, "Safety Specification for Commercial, Turf Care Equipment".
- 2.2 S.A.E. J1174, "Operator Ear Sound Level Measurement Procedure for Small Engine Powered Equipment".
- 2.3 S.A.E. J607, "Small Stock Two-Stroke and Four-Stroke Cycle Gasoline Engine Test Code".
- 2.4 Consumer Product Safety Commission (C.P.S.C.), "Safety Standard for Walk-Behind Power Lawn Mowers" (6355-01-M) Title 16-"Commercial Practices", Chapter II-C.P.S.C., Part 1205, in Federal Register, Vol. 44, No. 33-Thursaday, February 15, 1979, pp. 990-10037.

3. REQUIREMENTS:

3.1 ENGINE:

- 3.1.1 Gasoline powered
- 3.1.2 4-Cycle engine
- 3.1.3 Minimum 4 rated horsepower per S.A.E. J607 Procedure
- 3.1.4 Cast block, with or without sleeve
- 3.1.5 Recoil or electric starter as specified in the Invitation for Bid
- 3.1.6 Minimum acceptable blade tip speed at full throttle-250 feet per second (170.5 miles per hour)

3.2 CUTTING WIDTH: (Nominal)

- 3.2.1 20 to 21 inch
- 3.2.2 22 to 24 inch
- 3.2.3 25 to 27 inch

- 3.3 CUTTING HEIGHT: 2 inch minimum range with at least 3 cutting heights. Quick adjustment feature is not acceptable.
- 3.4 HOUSING: Minimum 14 gauge stamped steel or magnesium aluminum alloy designed to meet the drop test in paragraph 4.2.5. Steel reinforcing pads shall be welded at each wheel location on stamped steel decks. Blade height inside housing shall be measured before and after testing in accordance with paragraph 4.2.5. Permanent deformation shall not exceed 1/8" maximum.
- 3.5 FUEL TANK: Minimum capacity of 1 quart mounted on engine. An auxiliary 5 quart tank may be required when specified in the Invitation for Bids.
- 3.6 WHEELS: All wheels shall be stamped steel with roller or ball bearings and grease fittings. If bearings are sealed, grease fittings are not required. Minimum diameter of both front and rear wheels shall be 8 inches.
- 3.7 CONTROLS: Operator's control shall be conveniently located for ease of operation from operator's position. All controls shall be positive in action, including those on mowers manufactured to meet C.P.S.C. Safety Standard (see paragraph 2.4). For those mowers manufactured prior to December 31, 1981, that do not meet the C.P.S.C. Safety Standard, controls shall remain locked or fixed in set position under all operating conditions.
- 3.8 HANDLES: Handles shall be of 14 to 16 gauges, 7/8-inch OD tubular steel. The mower handle, while attached to the mower and the mower restrained, shall withstand 150 foot pounds of torque applied at the operator's end of the handle. The torque shall be applied five times clockwise and five times counter-clockwise in sequence. The component parts shall not break or deform in a manner that would adversely affect performance or constitute a hazard to the operator.
- 3.9 NOISE LEVEL: Noise level shall not exceed 86 decibels (A Scale) at the operator's ear, measured in accordance with paragraph 2.2.
- 3.10 SAFETY: Mowers shall have either an "Outdoor Power Equipment Institute" (OPEI) label; or meet all applicable requirements of A.N.S.I.-B71.4, (Latest Revision), or meet all applicable requirements of C.P.S.C. Safety Standard, paragraph 2.4.-as specified in the Invitation for Bids.
- 3.11 PERFORMANCE: At full throttle, mower shall cut grass and discharge evenly without excessive wind-rowing.

- 3.12 WORKMANSHIP: Mowers shall be free from defects such as fractures, splits, punctures, dents, rust deterioration or malformations, sharp edges, burrs, and slivers. Finish shall consist of durable, rust-proof, weather-proof coating.
- 3.13 WARRANTY: Mowers shall be guaranteed against defects in design, material and workmanship for a period of 1 year from date of receipt at destination, except for the engines which shall be guaranteed against defects in design, material, and workmanship for a period of 90 days.
- 3.14 INSTRUCTION BOOKS: Supplier shall provided 1 copy of complete instructions for maintenance and operation and 1 copy of a complete replacement parts list for each mower shipped.
- 3.15 MULCHER: A leaf mulching attachment shall be furnished when so specified in the Invitation to Bid.

4. SAMPLING, INSPECTION AND TEST PROCEDURES:

- 4.1 SAMPLES: Unless otherwise specified in the Invitation for Bids, no bid samples will be required.
- 4.2 TESTING:
- 4.2.1 Testing for noise level shall be in accordance with paragraph 2.2 above.
- 4.2.2 Verification for noise level and testing of other specification requirements shall be performed by or at the direction of the contracting agency, either at the place of manufacture or at destination, as indicated in the Invitation for Bids. Tests shall be performed on bid samples or samples taken from contractor's shipments. In the event products tested fail to meet requirements of this specification, the cost of samples used in testing and the cost of the testing shall be borne by the supplier.
- 4.2.3 Bidders must certify with each bid that the model being offered has been tested in accordance with paragraph 2.2; and, a copy of the laboratory test report must be included with the certification provided. Retesting for certification of noise level for the same model year shall not be required unless there has been a design change affecting noise level output.
- 4.2.4 Testing for Performance (paragraph 3.11): Mowers shall cut 5 inch lush grass to a height of 2 inches at approximately 3 miles per hour.
- 4.2.5 Wheel testing: Mowers shall withstand dropping 10 times from a height of 36 inches onto a concrete floor, landing essentially on all wheels.

5. PREPARATION FOR DELIVERY:

- 5.1 **PACKAGING:** Mowers shall be packaged in accordance with normal commercial practice and packed to assure acceptance by common carrier and provide product protection against loss and damage during multiple shipments, handling and storage. Shipping containers shall be in compliance with National Motor Freight Classification and Uniform Freight Classification.
- 5.2 **MARKING:** Each shipping container shall be clearly marked to indicate:
- a. Name of contents
 - b. Quantity
 - c. Contract or Purchase Order Number
 - d. Name and address of manufacturer
 - e. Name and address of consignee

6. NOTES:

- 6.1 **DEVIATIONS:** Any deviation from this purchase description must be indicated in the Invitation for Bids.
- 6.2 **AVAILABILITY OF DOCUMENTS:**
- 6.2.1 **A.N.S.I.** Standards are available from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.
- 6.2.2 **S.A.E.** Standards are available from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.
- 6.2.3 Copies of the **C.P.S.C.** Standard may be obtained from the Consumer Product Safety Commission, Washington, DC 20207.
- 6.3 **OPTIONS:** Where various options are available under this purchase description, e.g., cutting widths, the Invitation for Bids will specify the option required.
- 6.4 **BID EVALUATION CRITERIA:** Attachment "A" to this Purchase Description contains the Technical Evaluation Criteria to be utilized by government purchasing activities in evaluating bids received under Invitations to Bid utilizing this Purchase Description.

COPIES OF THIS PURCHASE DESCRIPTION ARE AVAILABLE FROM:

National Institute of Governmental Purchasing, Inc.
1001 Connecticut Avenue, NW Suite 922
Washington, DC 20036

Attachment "A" to:
NIGP Purchase Description
Heavy Duty Lawn Mowers
May 1, 1980

BID EVALUATION CRITERIA

NOISE ABATEMENT:

The purpose of this procurement is to obtain lawn mowers with sound levels below the current industry voluntary standards. Noise levels above 86 dB(A) at the operator's ear shall be cause for rejection of the bid. Sound levels shall be certified in accordance with the requirements of the attached specification.

EVALUATED BID PRICE:

The following formula will be used to determine the evaluated bid price for contract award. It allows the government purchasing activity to reward a bidder for offering a quieter mower. As in Life Cycle Costing, the bidder with the lowest (responsive) actual bid price may not necessarily have the lowest evaluated bid price.

As indicated above, the maximum acceptable noise level is 86 dB(A) at the operator's ear. The purchaser will not pay a contract price more than X% in total above the average of the actual bid prices.¹ This amount represents the maximum additional amount that the government is willing to pay above the average actual bid price, for each quieter mower.

The formula for determining the Evaluated Bid Price (EBP) is:

$EBP = P - Y\% (P_{AV}) (N_N - N)$ where:

EBP = Evaluated Bid Price

P = The Actual Bid Price

Y% = The percentage weight designated by the purchasing activity to "reward" the bidder for each decibel that his mower is quieter than the noisiest mower bid.

P_{AV} = Average (actual) bid price for all mowers bid in response to IFB

N_N = The noise level (in decibels) of the noisiest product bid in response to IFB

N = The noise level (in decibels) of the mower whose EBP is being determined

¹ Not to be confused with the "per decibel" percentage in the formula

SAMPLE OF RESPONSIVE BID TABULATIONS

BIDDERS:

| | <u>Bidder</u> | <u>Actual Bid Price</u> | <u>Noise Level</u> | <u>Evaluated Bid Price (EBP)</u> |
|-----|---------------|-------------------------|--------------------|----------------------------------|
| (A) | Smith Co. | \$145.00 | 86 | \$145.00 |
| (B) | Robert Co. | \$154.00 | 85 | \$151.02 |
| (C) | Jones Co. | \$147.00 | 82 | \$135.08 |
| (D) | Watkins Co. | \$150.00 | 81 | \$135.10 |

CALCULATION OF EVALUATED BID PRICE:

Assuming that the Purchasing Activity used a 2% "reward" factor for each decibel of increased quietness, the EBP for each bidder would be determined as follows:

(A) Smith Co.
EBP = \$145. - .02(\$149) (86-86)
= \$145. - \$2.98(0)
= \$145.

(B) Roberts Co.
EBP = \$154. - .02(\$149) (86-85)
= \$154. - \$2.98(1)
= \$151.02

(C) Jones Co.
EBP = \$147. - .02(\$149) (86-82)
= \$147. - \$2.98(4)
= \$147. - \$11.92
= \$135.08

(D) Watkins Co.
EBP = \$150. - .02(\$149) (86-81)
= \$150. - \$2.98(5)
= \$150. - \$14.90
= \$135.10

CONTRACT AWARD:

Based on an evaluated bid price (EBP) of \$135.08, award should be made to Jones Co. (Bidder "C") at their actual bid price of \$147.00 per unit for furnishing mowers with a maximum noise level of 82 dB(A).

Appendix A

LAWN MOWER MANUFACTURERS

Listed below are several manufacturers of push-type, powered, rotary mowers. Be sure to include these manufacturers and NIGP on your bidders mailing list. The manufacturers probably will not bid "direct", but they do need to be informed of your requirements for quieter mowers. The NIGP copy should be sent to National Institute of Governmental Purchasing, Inc. 1735 Jefferson Davis Highway, #101, Arlington, VA 22202

American Honda Motor, Inc.
100 W. Alondra Boulevard
Gardena, CA 90247

Hahn, Inc.
1625 N. Garvin Street
Evansville, IN 47711

Bachtold Brothers, Inc.
619 N. Wood Street
Forrest, IL 61741

Heckendorn Mfg. Co., Inc.
Cedar Point, KS 66843

Bolens-FMC Corp.
215 S. Park Street
Port Washington, WI

Hull Ind. Co.
910 Main Street
Hull, IA 51239

Bunton Co.
4303 Poplar Level Road
Louisville, KY 40232

John Deere Horicon Works
220 East Lake
Horicon, WI 53032

F. D. Kees Mfg. Co.
700 Park Avenue
Beatrice, NE 68310

Kut - Kwick Corp.
P.O. Box 984
Brunswick, GA 31520

Flymo Prods.
13400 Northrup Way
No. 27
Bellevue, WA 98005

IMP Mfg. Co. Inc.
16400 E. Truman Road
Independence, MO 60450

Ford Tractor Operations
2500 E. Maple Road
Troy, MI 48084

Locke Mfg. Div.
1085 Connecticut Avenue
Bridgeport, CT 06607

Gilson Brothers Co.
P.O. Box 152
Plymouth, WI 53073

McDonough Power Equipment
Snapper
Macon Highway
McDonough, GA 30253

Goodall Division
1405 Bunton Road
Louisville, KY 40232

Mono Mfg. Co.
Hwy. 160 West
Springfield, MO 65803

Gravely
One Gravely Lane
Clemmons, NC 27012

MTD Prods. Inc.
5965 Grafton Rd.
Cleveland, OH 44136

Murray Ohio Mfg. Co.
P.O. Box 268
Brentwood, TN 37027

OMC Lawn Boy
Galesburg, IL 61041

Ryan Div.
OMC
920 N. 21st.
Lincoln, NE 69501

Sarlo Power Mowers, Inc.
P.O. Box 1169
Ft. Myers, FL 33902

Sears, Roebuck, & Co.
Sears Tower - 732G
Chicago, IL 60684

Seifert Manufacturing Co.
Kiel, WI 53042

Sensation Corp.
3601 N. 16th Street
Omaha, NE 68110

Simplicity Manufacturing Co.
500 North Spring Street
Port Washington, WI 53403

Textron, Inc.
Jacobsen Division
1721 Packard Avenue
Racine, WI 53403

Toro Manufacturing Co.
811 Lyndale Ave., South
Bloomington, MN 55420

Turner Intl.
6480 Chupp Rd. Unit B1
Lithonia, GA 30058

United Farm Tools, Inc.
P.O. Box 9175
5604 MacCorkle Ave., S.W.
S. Charleston, WV 25309

Venco Corp. of America
1331 23rd Street
Racine, WI 53403

Wheel Horse Products, Inc.
515 W. Ireland Road
South Bend, IN 46614

White Farm Equipment
2625 Butterfield Road
Oak Brook, IL 60521

Wisconsin Marine, Inc.
1 Bob Cat Lane
Johnson Creek, WI 53038

Yard-Man Co.
P.O. Box 36900
5960 Grafton Rd.
Cleveland, OH 44136

Yazoo Manufacturing Co.
P.O. Box 4207
3607 Livingston Road
Jackson, MS 39216

APPENDIX B

Governments Known to Have Had Buy Quiet
Experiences Associated With Lawnmowers

The Buy Quiet concept is new and the program is just starting. It should not be surprising, therefore, that only a few governments are known to have had such experiences. As more governments find the concept worthy and practical, this list can be expected to grow. As of this writing, about 200 governments are gaining experience with a quiet competitively priced lawnmower, originally purchased by the Federal Government in a Buy Quiet action, and which is now being loaned through a special program arranged by the National Institute of Governmental Purchasing. Governments having Buy Quiet experience with lawnmowers as of this writing include:

| | |
|---|-----------------------------|
| Federal Supply Service | Web Lockwood/(703)557-0225 |
| City of St. Paul/Ramsey County Minnesota | Bill Peter/(612)298-4225 |
| Shelby County, Tennessee | Ray Hughes/(901)528-3360 |
| City of Milwaukee, Wisconsin | Hal Leatherby/(414)278-3612 |
| City of Austin, Texas | Solon Bennett/(512)477-6511 |
| State of West Virginia | Don Carte/(304)348-2308 |
| State of Iowa | Jack Pitzer/(515)281-5981 |
| State of Washington | Guy McFadden/(206)753-2477 |

This list will be updated on a regular basis.

Appendix C

Sources of Additional Information

Information on any aspect of the Buy Quiet Program is available from:

Director
Buy Quiet Program
National Institute of
Governmental Purchasing, Inc.
1735 Jefferson Davis Highway
Suite 101
Arlington, Virginia 22202

Telephone: (703) 920-4020

For additional information on technical and programmatic matters relating to product noise, you may wish to contact your local State noise control official.